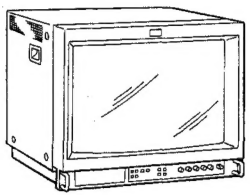
PVM-20M7MDE

SERVICE MANUAL

AEP Model

Chassis No. SCC-J55A-A



Trinitron

SPECIFICATIONS

Video signal

Color system	PAL (Display system: 625/100/2:1)
System[a)]	625/50/2:1 (Display system: 625/100/2:1) 625/50/1:1 (Display system: 625/50/1:1)

a) System specifications of each system are explained on page 31.

Resolution	625/50/2:1: 550 TV lines 625/50/1:1: 800 TV lines
Aperture correction	0 dB to 6 dB
Frequency response	625/50/2:1: 6.8 MHz (–3dB) 625/50/1:1: 20.0 MHz (–3dB)
Synchronization	AFC time constant 1.0 msec. (FAST), 2.0msec. (SLOW)

Picture performance

Normal scan	7 % over scan of CRT effective screen area
Under scan	5 % underscan of CRT effective screen area
H. linearity	Less than 5.0 % (typical)
V. linearity	Less than 5.0 % (typical)
Convergence	Central area: 0.5 mm (typical) Peripheral area: 0.6 mm (typical)
Raster size stability	H: 0.5 %, V: 0.5 %
High voltage regulation	0.5 %

CRT

CRT type	HR Trinitron Aperture grill (AG) pitch: 0.3 mm EBU standard phosphor
Color temperature	6500 K/5600 K/USER 1/USER 2

— Continued on next page —

TRINITRON® COLOR VIDEO MONITOR

SONY®

Inputs

LINE A
- VIDEO IN: BNC connector (×1), 1Vp-p +3 dB, -6 dB, sync negative
- AUDIO IN: Phono jack (×1), –5 dBu[b], more than 47 kilo-ohms

LINE B
- Y/C IN: 4-pin mini-DIN(×1) *See the pin assignment on the next page.*
- AUDIO IN: Phono jack (×1), –5 dBu[b], more than 47 kilo-ohms

RGB/COMPONENT A
- R/G/B channels: BNC connector (×3) 0.7 Vp-p +3 dB, –6 dB Sync on green: 0.3 Vp-p, negative
- R-Y, B-Y channels: BNC connector (×2) 0.7 Vp-p +3 dB, –6 dB
- Y channel: BNC connector (×1) 1.0 Vp-p +3 dB, –6 dB (standard color bar signal of 75 % chrominance)
- AUDIO IN: Phono jack (×1), –5 dBu[b], more than 47 kilo-ohms
- EXT SYNC: BNC connector (×1) Composite sync 4 Vp-p ±6 dB, sync negative

RGB/COMPONENT B
- R/G/B channels: BNC connector (×3) 0.7 Vp-p +3 dB, –6 dB Sync on green: 0.3 Vp-p, negative
- R-Y, B-Y channels: BNC connector (×2) 0.7 Vp-p +3 dB, –6 dB
- Y channel: BNC connector (×1) 1.0 Vp-p +3 dB, –6 dB (standard color bar signal of 75 % chrominance)
- AUDIO IN: Phono jack (×1), –5 dBu[b], more than 47 kilo-ohms
- EXT SYNC: BNC connector (×1) Composite sync 4 Vp-p ±6 dB, sync negative

RS-232C: 9-pin D-sub (×1) *See the pin assignment on page31.*

b) 0 dBu = 0.775 Vr.m.s.

Outputs

LINE A
- VIDEO OUT: BNC connector (×1), loop-through, automatic 75 ohms termination
- AUDIO OUT: Phono jack (×1), loop-through

LINE B
- Y/C OUT: 4-pin mini-DIN (×1), loop-through, automatic 75 ohms termination
- AUDIO OUT: Phono jack (×1), loop-through

RGB/COMPONENT A
- R/R-Y/ G/Y B/B-Y OUT: BNC connector (×3), loop-through, automatic 75 ohms termination
- AUDIO OUT: Phono jack (×1), loop-through
- EXT SYNC: BNC connector (×1), loop-through, automatic 75 ohms termination

Speaker output: Output level: 0.8 W

General

Classification of equipment
- Type of protection against electric shock: Class I equipment
- Degree of protection against electric shock: Type B equipment
- Degree of protection against harmful ingress of water: Ordinary equipment
- Degree of safety of application in the presence of a flammable anaesthetic mixture: Not protected equipment
- Mode of operation: Continuous operation
- Information concerning type and frequency of technical maintenance: Not need maintenance equipment
- Main power switch: Functional switch

Power consumption: AC 150 W (0.8 to 0.6 A)

Power requirements: 220 to 240 V AC, 50/60Hz

Operating temperature: 0 to +35°C (32 to 95°F)

Storage temperature: –10 to +40°C (14 to104°F)

Relative humidity: 0 to 90 %

Pressure: 860 to 1060 hpa

Dimensions: Approx. 450 ×457.5 × 503 mm (w/h/d) (17¾× 18⅛ × 19⅞ inches) not incl. projecting parts and controls

Mass: Approx. 34 kg (74lb 15 oz)

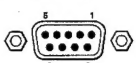
Accesory supplied AC power cord (1)
AC plug holder (1)
Splash-proof covers (2)
Control panel cover (1)
Panel hinges (2)
Instructions for Use (1)
Interface Manual for Programmers (1)
Quick Reference Card (1)
Double-sided adhesive tapes (4)
Sales Companies Guide (1)

Pin assignment

Y/C IN connector (4-pin mini-DIN)

Pin No.	Signal	Description
1	Y-input	1 Vp-p, sync negative, 75 ohms
2	CHROMA subcarrier-input	300m Vp-p, burst Delay time between Y and C: within 0 ± 100 nsec., 75 ohms
3	GND for Y-input	GND
4	GND for CHROMA-input	GND

RS-232C connector (D-sub 9-pin)



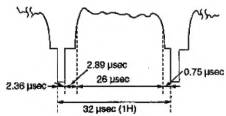
Pin No.	Signal
1	–
2	RX (Remote computer → Monitor)
3	TX (Monitor → Remote computer)
4	–
5	GND
6	–
7	–
8	–
9	TALLY $\overline{\text{ON}}$/OFF[c]

c) $\overline{\text{ON}}$ when pin 5 and pin 9 are shorted.

System specification

Sighnal timing chart for 625/50/1:1

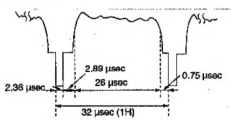
H (Horizontal)



V (Vertical)

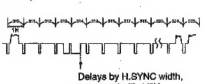
Signal timing chart for 625/100/2:1

H (Horizontal)



V (odd field)

V (even filed)



Design and specifications are subject to change without notice.

TABLE OF CONTENTS

[CAUTION : Double-pole/neutral fusing]

(CAUTION)

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.

WARNING!!

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS.

THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

SECTION 1
GENERAL

The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remain as in the manual.

Features

Picture

HR (High Resolution) Trinitron[1] picture tube
The monitor is equipped with the HR Trinitron tube newly developed for professional use in broadcasting stations.
The HR Trinitron tube with Aperture Grill (AG) pitch of 0.30 mm provides a high resolution picture.

Digital comb filter
When PAL video signals are received, a digital comb filter activates to give a more accurate Y/C separation. This contributes to decreasing the vertical cross luminance phenomena which cannot be removed by the analog comb filter. The digital comb filter gives a high resolution picture.

Improvement of field flicker
With the field double scanning system incorporated, the monitor can much reduce flicker phenomena which cause severe eye fatigue, especially in still image observation and for long time operation.

Input/control connectors

Analog RGB/COMPONENT input connectors
Analog RGB signals or component (Y, R-Y and B-Y) signals from video equipment can be input to these connectors. Input signals can be selected using the operation buttons and the on-screen menu.

External sync input connectors
When an RGB or component signal is input and the sync signal is set to external in the on-screen menu, the monitor can operate according to a sync signal supplied from an external sync generator.

Automatic termination (connector with -V- mark only)
The input connector is terminated at 75 ohms inside when no cable is connected to the loop-through output connector. When a cable is connected to an output connector, the 75-ohm termination is automatically released.

RS-232C interface
The monitor can be remotely controlled by a personal computer via the serial remote interface.

For detailed information on the commands, refer to the supplied interface manual.

Functions

Power saving
On sensing the absence of sync signals for a certain period, the monitor enters stand-by mode to reduce power consumption to approx. 25 %. This contributes to the power saving. You can select either of 30 minutes or 10 minutes from the on-screen menu as a period of sync signals absence.

Automatic reception of a progressive scan (625/50/1:1) signal
The monitor can receive a progressive scan signal when the 625/50/1:1 signal designated in the specifications of the monitor is input. This allows for system expansion.

On-screen menus
Various monitor settings can be changed by using on-screen menus.

Underscan mode
The signal normally scanned outside of the screen can be monitored in the underscan mode. This makes it possible to view an image or screen of data in its entirety.

Auto/manual degauss
Degaussing of the screen is performed automatically when the power is turned on. When the color display becomes non-uniform, degauss the monitor manually by pressing the DEGAUSS button.

Five menu languages
You can select the language used for the on-screen menus from five languages: English, German, French, Italian and Spanish.

Splash-proof cover and control panel cover
The monitor can be covered with splash-proof covers and a control panel cover. The splash-proof covers protect the ventilation holes from splashes from medicines and other liquids, and a control panel cover protects the control buttons on the front panel from inadvertent operation.

Quick reference card
The quick reference card is supplied to help you understand the menu configuration and operating method without reading the instruction manual. The quick reference card can be attached to any convenience panel with a supplied double-sided adhesive tape.

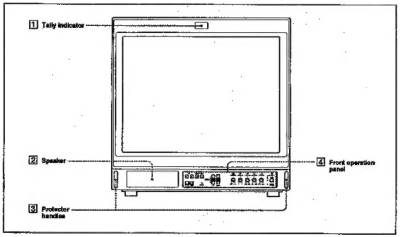
EIA standard 19-inch rack mounting
Using the SLR-103A slide rail (not supplied), the monitor can be mounted in an EIA standard 19-inch EIA standard rack.

For details on mounting, refer to the instruction manual supplied with the slide rail kit.

1) "Trinitron" is a registered tradenark of Sony Corporation.

Location and Function of Parts and Controls

Front



1 Tally indicator
Lights when the video equipment connected to this monitor is selected. In order for this indicator to light when the video equipment connected to this monitor is selected, a tally control connection is needed on the RS-232C connector. The light can also be turned on by sending a command from the computer.

For detailed information, see "RS-232C connector (D-sub 9-pin)" in "Specification" on page 31, or refer to the supplied interface manual.

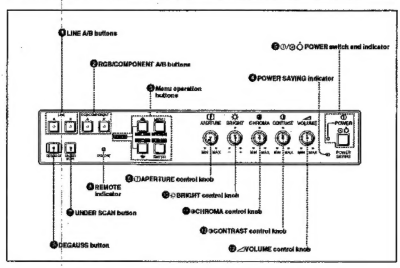
2 Speaker
Provides monaural sounds.

3 Protector handles
Pull out or insert the monitor as holding these handles when mounting the monitor in the EIA standard 19-inch rack. These handles also function to protect the control buttons and knobs on the front panel from being broken when you tilts the monitor.

4 Front operation panel
Operation buttons, control knobs and indicators are located on the front operation panel.

For detailed information on the operation panel, see "Front Operation Panel" on the next page.

Front Operation Panel



1 LINE A/B (input select) buttons
Press to select a signal to be monitored. The indicator on the pressed button lights.

Input signal	Press
Signal fed through the LINE A connector	LINE A
Signal fed through the LINE B connector	LINE B

2 RGB/COMPONENT A/B (input select) buttons
Press to select a signal to be monitored. The indicator on the pressed button lights.

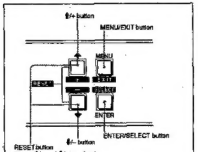
Input signal	Press
Signal fed through the RGB/ COMPONENT A connectors[a]	RGB/COMPONENT A
Signal fed through the RGB/ COMPONENT B connectors[a]	RGB/COMPONENT B

a) The signal fed through the RGB/COMPONENT A/B connectors can be selected from the RGB SYSTEM menu.

For detailed information on selecting the RGB or COMPONENT signal, see "To select the signal to be monitored through the RGB/COMPONENT connectors" on page32.

❺ Menu operation buttons
Press to make the menu appear.
To return to the previous screen, press the MENU button again.

For detailed information on menu operation buttons, see "Menu operation buttons" on page19.



❻ POWER SAVING indicator
This indicator lights when the POWER SAVING function is active.

❼ ⏻/I POWER switch and indicator
Press to turn the monitor on. The green power indicator lights.
Press again to turn the power off.

❽ DEGAUSS button
Press this button momentarily to demagnetize the screen.
Wait for at least 10 minutes before pressing this button again.

❾ UNDER SCAN button
Press this button to display the whole picture. The button indicator lights. The display size is reduced by approximately 5 % so that the four corners of the raster are visible.
Press this button again to reset the display to the normal size. The button indicator goes out.

❿ REMOTE indicator
This indicator lights when REMOTE (RS-232C) is set to REMOTE or REMOTE & LOCAL on the menu.

⓫ APERTURE control knob
Adjusts the sharpness of the screen.

For how to make adjustment, see "Adjustment" on page 18.

⓬ BRIGHT (brightness) control knob
Adjusts the brightness of the screen.

For how to make adjustment, see "Adjustment" on page 18.

⓭ CHROMA (chrominance) control knob
Adjusts the color intensity of the video signal.

For how to make adjustment, see "Adjustment" on page 18.

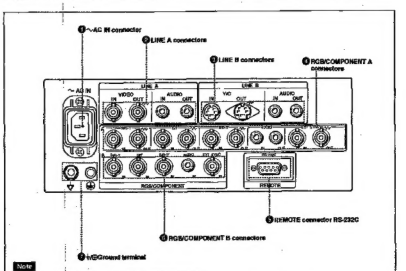
⓮ CONTRAST control knob
Adjusts the contrast of the screen.

For how to make adjustment, see "Adjustment" on page 18.

⓯ VOLUME control knob
Adjusts the speaker volume.

For how to make adjustment, see "Adjustment" on page 18.

Rear Panel



Note

Before connecting the video equipment, see "Important safeguards" on page 2.

(The ⁄V⁄ mark indicates automatic termination.)

❶ ~AC IN (inlet) connector
Connect the supplied AC power cord to this connector and to a wall outlet.

❷ LINE A connectors
Input connectors for the composite video and audio signals and their loop-through output connectors.
To monitor the input signal fed to these connectors, press the LINE A button on the front panel.

VIDEO IN (input) connector (BNC-type)
Connect to the video output connector on video equipment, such as a VCR or a color video camera. For a loop-through connection, connect to the video output connector on another monitor.

VIDEO OUT (output) connector (BNC-type)
Loop-through output connector of the VIDEO IN connector. Connect to the video input connector on a VCR or another monitor.
When the cable is connected to this connector, the 75-ohm input termination is automatically released, and the signal input to the VIDEO IN connector is output from this connector.

AUDIO IN (input) connector (phono jack)
Connect to the audio output connector on a VCR or other equipment. For a loop-through connection, connect to the audio output on another monitor.

AUDIO OUT (output) connector (phono jack)
Loop-through output on the AUDIO IN connector. Connect to the audio input connector of a VCR or another monitor.

❶ LINE B connectors
Input connectors for the Y/C separate video and audio signals and their loop-through output connectors. To monitor the input signal fed through these connectors, press the LINE B button on the front panel.

Y/C IN (input) connector (4-pin mini-DIN)
Connect to the Y/C separate output connector of a color video camera, VCR or other video equipment.

For pin assignments of the Y/C IN connector, see "Y/C IN connector (4-pin mini-DIN)" on page 30.

Y/C OUT (output) connector (4-pin mini-DIN)
Loop-through output of the Y/C IN connector. Connect to the Y/C separate input connector on a VCR or another monitor.
When the cable is connected to this connector, the 75-ohm input termination is automatically released, and the signal input to the Y/C IN connector is output from this connector.

AUDIO IN (input) connector (phono jack)
Connect to the audio output connector on a VCR or other equipment. For a loop-through connection, connect to the audio output on another monitor.

AUDIO OUT (output) connector (phono jack)
Loop-through output of the AUDIO IN connector. Connect to the audio input connector on a VCR or another monitor.

❷ RGB/COMPONENT A connectors
Input connectors for the RGB signals or component signals, external sync signals and audio signals and their loop-through output connectors.
To monitor the input signal fed through these connectors, press the RGB/COMPONENT A button on the front panel. Then, select one of the four items RGB -EXT SYNC, RGB -SYNC ON G, COMP -EXT SYNC or COMP -SYNC ON Y on the RGB SYSTEM -RGB A- menu.

For detailed information on settings, see ""To select the signal to be monitored through the RGB/COMPONENT connectors" on page 22.

R/G/B IN or R-Y/Y/B-Y IN (input) connectors (BNC-type)
When RGB -SYNC ON G or COMP -SYNC ON Y is selected on the RGB SYSTEM -RGB A- menu, the monitor operates on the sync signal from the G/Y channel.
When RGB -EXT SYNC or COMP -EXT SYNC is selected on the RGB SYSTEM -RGB A- menu, the monitor operates on an external sync signal.
To monitor the analog RGB signal: Connect to the analog RGB output connectors on a video camera, VCR or other video equipment.
To monitor the component signal: Connect to the R-Y/Y/B-Y component output connectors on video equipment.

R/G/B OUT or R-Y/Y/B-Y OUT (output) connectors (BNC-type)
Loop-through outputs of the R/R-Y, G/Y IN and B/B-Y IN connectors.
When cables are connected to these connectors, the 75-ohm input termination is automatically released, and the signal inputs to the R/R-Y, G/Y IN and B/B-Y IN connectors are output from these connectors.
To output the analog RGB signal: Connect to the analog RGB input connectors on a video printer or another monitor.
To output the component signal: Connect to the R-Y/Y/B-Y component input connectors on video equipment.

AUDIO IN (input) connector (phono jack)
Connect to the audio output connectors on video equipment when the analog RGB or component signal is input.

AUDIO OUT (output) connector (phono jack)
Loop-through output of the AUDIO IN connector. Connect to the audio input connector on a VCR or another monitor.

EXT SYNC IN (external sync input) connector (BNC-type)
Connect to the sync signal output on a video camera, VCR or other video equipment, when this monitor operates on an external sync signal.
To use the sync signal fed through this connector, select RGB -EXT SYNC or COMP -EXT SYNC on the RGB SYSTEM -RGB A- menu.

EXT SYNC OUT (external sync output) connector (BNC-type)
Loop-through output of the EXT SYNC IN connector. Connect to the external sync input connector on video equipment to be synchronized with this monitor.
When the cable is connected to this connector, the 75-ohm input termination is released, and the signal input to the EXT SYNC IN connector is output from this connector.

For detailed information on settings, see "To select the signal to be monitored through the RGB/COMPONENT connectors" on page 22.

❸ REMOTE connector RS-232C (D-sub 9-pin)
Connect to the RS-232C control connector on a personal computer. You can operate the monitor with the commands from the computer.

For detailed information, refer to the supplied "Interface Manual for Programmers".

For pin assignments of the REMOTE connector, see "RS-232C connector (D-sub 9-pin)" on page 31.

❹ RGB/COMPONENT B connectors
Input connectors for the RGB signals or component signals, external sync signals and audio signals.
To monitor the input signal fed through these connectors, press the RGB/COMPONENT B button on the front panel. Then, select one of the four items RGB -EXT SYNC, RGB -SYNC ON G, COMP -EXT SYNC or COMP -SYNC ON Y on the RGB SYSTEM -RGB B- menu.

For detailed information on settings, see "To select the signal to be monitored through the RGB/COMPONENT connectors" on page 22.

R/G/B IN or R-Y/Y/B-Y IN (input) connectors (BNC-type)
When RGB -SYNC ON G or COMP -SYNC ON Y is selected on the RGB SYSTEM -RGB B- menu, the monitor operates on a sync signal from the G/Y channel.
When RGB -EXT SYNC or COMP -EXT SYNC is selected on the RGB SYSTEM -RGB B- menu, the monitor operates on the external sync signal.
To monitor the analog RGB signal: Connect to the analog RGB output connectors on a video camera, VCR or other video equipment.
To monitor the component signal: Connect to the R-Y/Y/B-Y component output connectors on video equipment.

AUDIO IN (input) connector (phono jack)
Connect to the audio output connectors on video equipment when the analog RGB or component signal is input.

EXT SYNC IN (external sync input) connector (BNC-type)
Connect to the sync signal output on a video camera, VCR or other video equipment, when this monitor operates on an external sync signal.
To use the sync signal fed through this connector, select RGB -EXT SYNC or COMP -EXT SYNC on the RGB SYSTEM -RGB B- menu.

❺ ⏚ Ground terminal
Connect to the equipotential plug to bring the various parts of a system to the same potential.

See "Symbols on the unit" on page 4.

Preparation

This section explains preparation required before attempting to operate the monitor, and how to connect to other equipment.

For detailed information on connecting the monitor to other equipment, refer also to the instruction manuals supplied with those equipment.

Note

Always turn off the power of the monitor and other equipment before attempting to make connections.

Connecting the AC Power Cord

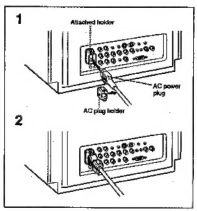
Connect the supplied AC power cord to the ~AC IN connector and to a wall outlet.

Cautions on power connection

- Use the supplied AC power cord.
- Set the power switch to OFF before connecting or removing the AC power cord.
- Make sure that the power supply conforms to the voltage rating in "Specifications" on page 29.

To connect an AC power cord securely with the AC plug holder

Before connecting the AC power cord to the ~AC IN connector and to a wall outlet, we recommend to connect an AC power cord securely with the AC plug holder as follows.



1 Plug the AC power plug into the attached holder. Then attach the supplied AC plug holder on the top of the AC power cord.

2 Slide the AC plug holder over the cord until it connects with the attached holder.

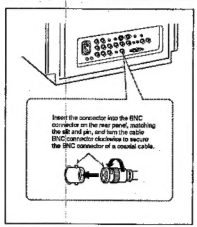
To disconnect the AC power cord

Note

Wait at least 10 seconds after switching OFF the power switch before disconnecting the AC power cord to discharge any static electricity from the CRT display tube.

Pull out AC plug holder by squeezing the up and down side.

Connecting a Cable to the BNC Connector

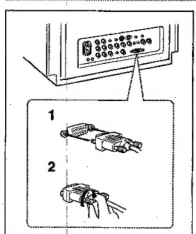


Note

Before connecting the video equipment, see **"Important safeguards/notices for use in the medical environments"** on page 2.

Connect a coaxial cable with the BNC connectors to the BNC connectors on the rear panel as illustrated.

Connecting a Cable to the RS-232C Connector



Note

Before connecting the video equipment, see **"Important safeguards/notices for use in the medical environments"** on page 2.

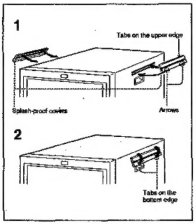
1 Align the plug and socket carefully.

2 Push fully in and tighten the screws by hand.

To disconnect the plug

Loosen the screws, and pull out the plug.

Attaching the Splash-Proof Covers



In order to protect the ventilation holes from splashes from medicines, etc., attach the supplied splash proof covers as illustrated.

1 Hook the tabs on the upper edge into the ventilation holes, making sure that the arrows on the cover are facing down.

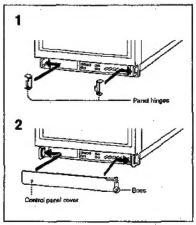
Note

Attach the splash-proof covers on all ventilation holes.

2 Push up the tabs on the bottom edge and fit the cover into the lowest ventilation holes.

Attach covers on both left and right vents.

Attaching the Control Panel Cover

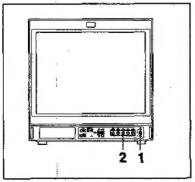


In order to protect the control buttons on the front panel from inadvertent operation, attach the supplied control panel cover.

1 Attach the panel hinges to the left and right grips from the inner side.

2 Fit the bosses on both sides of the control panel cover into the lower holes on the panel hinges, bending the control panel cover a little.

Getting Started



Notes

- After the power has been turned on or you have pressed the DEGAUSS button on the front panel of the monitor, the monitor is demagnetized for approximately 10 seconds. This generates a strong magnetic field around the monitor which may affect data stored on magnetic tape or disks near the monitor. Place all magnetic recording equipment and tapes/disks well away from the monitor.
- Whenever you change the location of the monitor, degauss the monitor before adjustments are made.

1 Set the power switch to ON and then turn on the power on the other equipment.

We recommend warming up the monitor for at least 30 minutes after turning the power switch on and inputting the signal.

2 Adjust the monitor settings as required.

For detailed information on adjustments, see "Adjustment" on page 18, "Main menu functions" on page 22 and "USER SERVICE menu functions" on page 26.

When the POWER SAVING indicator is lit

If no sync signals are received for a certain period, the POWER SAVING indicator lights, and the monitor screen blanks out. This is power saving mode. Touching any button other than the POWER switch will restore the monitor to normal operation.

Note

It takes about ten seconds for the picture to reappear on the screen after power saving mode is released.

If the color display becomes non-uniform

Press the DEGAUSS button so that the color uniformity becomes as even. If the color display becomes non-uniform even after pressing the DEGAUSS button, landing adjustment is required on the on-screen menu.

For details, see "To adjust the landing" on page 27.

To display the whole picture on the monitor

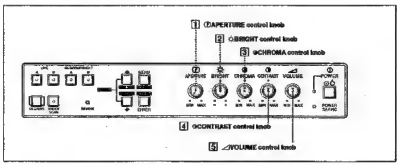
Press the UNDER SCAN button so that the signal normally scanned outside of the screen appears on the monitor.

Note

When the monitor is in underscan mode, dark RGB scanning lines may appear on the top edge of the screen. These are caused by an internal test signal, and are not part of the input signal.

Adjustment

This section explains adjustment performed using controls on the front panel of the monitor.



To adjust the sharpness
Use the ◎APERTURE control [1].
Turn the control towards MAX to sharpen the picture.
Turn the control towards MIN to soften the picture.

To adjust the brightness
Use the ☼BRIGHT control [2].
Turn the control towards + to make the picture brighter.
Turn the control towards - to make the picture darker.

To adjust the color intensity of the video signal (color saturation)
Use the ◑CHROMA control [3].
Turn the control towards MAX to increase the color intensity.
Turn the control towards MIN to decrease the color intensity.

To adjust the contrast
Use the ◐CONTRAST control [4].
Turn the control towards MAX to increase the contrast.
Turn the control towards MIN to decrease the contrast.

To adjust the speaker volume
Use the ◿VOLUME control [5].
Turn the control towards MAX to increase the volume.
Turn the control towards MIN to decrease the volume.

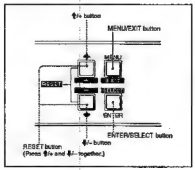
On-Screen Menus

The on-screen menus allow you to make various settings and adjustments of the monitor. The settings remain in memory even when the power is turned off.

Using the On-Screen Menus

Menu operation buttons

There are four menu operation buttons on the front panel of the monitor.



To display the on-screen menus
To display the main menu (called MENU on the on-screen menu), press the MENU button. To display the USER SERVICE menu, press and hold down the MENU button for 2 or 3 seconds.

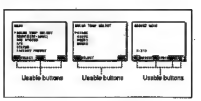
To exit the on-screen menus
Each time you press the MENU/EXIT button, the screen returns to the one previously displayed. Press the MENU button until the regular screen appears.

Functions of menu buttons

The function of the menu operation buttons depends on the purpose that you want to do on the displayed on-screen menu.
The following table shows the button functions.

Button	To select menu item	To adjust selected menu item
MENU EXIT	Exits the menu and returns to the previous menu.	Exits the menu and returns to the previous menu.
ENTER SELECT	Decides a selected item.	Select an item, only on the ADJUST GAIN and ADJUST BIAS MENU menu.
+ +	Moves the cursor ( ) upwards.	Increases the selected value.
- -	Moves the cursor ( ) downwards.	Decreases the selected value.
RESET Press +/+ and -/- together.		Can be used only on ADJUST GAIN, ADJUST BIAS and LANDING menus. Resets the setting to the original value before this change on ADJUST GAIN and ADJUST BIAS menus. Resets the setting to the standard value (00) on the LANDING menu.

Buttons that can be used on each menu are displayed on the bottom line of the screen.



Usable menu button display line

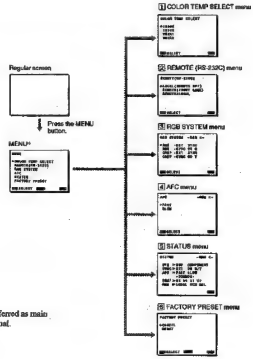
On-Screen Menu Configuration

The monitor has two menus: Main menu (called MENU on the on-screen menu) and USER SERVICE menu.
These two menus have sub menus.

For detailed information on the configuration and functions of these on-screen menus, see the following "Main Menu" and "USER SERVICE Menus" on page 24.

Main Menu

Main menu tree



a) This MENU is referred as main menu in this manual.

List of operation menus

The following list shows the function and factory setting and reference page of operation menus.
You can change the factory setting using the menu.
To reset the settings to the factory-settings, select RESET from the FACTORY PRESET menu.

For details, see "To reset the monitor status to the factory settings" on page 25.

Operation menu	Function	Factory setting	Reference page
1 COLOR TEMP SELECT	Selects the color temperature	6500K	22
2 REMOTE (RS-232C)	Selects monitor operation mode when controlling the monitor via the RS-232C interface	LOCAL (REMOTE OFF)	22
3 RGB SYSTEM	Selects the signal to be monitored through the RGB/COMPONENT connectors	RGB-EXT SYNC	22
4 AFC	Selects the AFC time constant to correct the picture of VCR when it is skew on the upper part of the monitor screen.	FAST	23
5 STATUS	Checks the current menu settings for the monitor		23
6 FACTORY PRESET	Resets the monitor status to the factory settings.	CANCEL	23

Displaying the main menu

Press the MENU button.
The main menu appears.

Main menu functions

This section explains settings which you can change using the operation menus.

To select the color temperature

The monitor has two preset color temperatures, 6500K and 9300K and two customized color temperatures USER 1 and USER 2. You can select one of those four standard temperatures on the COLOR TEMP SELECT menus.

1 COLOR TEMP SELECT menu

Item	Function
6500K	Sets the color temperature to 6500K.
9300K	Sets the color temperature to 9300K.
USER 1	Sets the color temperature to the one set on USER 1 COLOR TEMP ADJ menu.
USER 2	Sets the color temperature to the one set on USER 2 COLOR TEMP ADJ menu.

You can adjust the color temperature on the USER SERVICE menus of USER 1 and USER 2 to obtain a color temperature other than the factory settings of 6500K and 9300K.

For details of how to obtain a color temperature other than the factory settings, see "To adjust the white balance" on page 26.

To control the monitor via the RS-232C interface

You can select the monitor operation mode on the REMOTE (RS-232C) menu.

2 REMOTE (RS-232C) menu

Item	Function
LOCAL (REMOTE OFF)	Operates the monitor using the buttons and control knobs on the front panel of the monitor.
REMOTE (FRONT LOCK)	Controls the monitor remotely from a computer. Buttons and control knobs except the POWER switch do not function. To return to the REMOTE (RS-232C) menu from this mode, press the MENU/EXIT button for about 2 seconds.
REMOTE & LOCAL	Controls the monitor remotely from a computer. Control knobs such as APERTURE, BRIGHT, CHROMA, CONTRAST and VOLUME do not function.

To select the signal to be monitored through the RGB/COMPONENT connectors

You can select the signal to be monitored through the RGB/COMPONENT connectors on the RGB SYSTEM menu.

3 RGB SYSTEM menu

This menu appears when you press the RGB/COMPONENT A button on the front panel. When you press the RGB/COMPONENT B button, the RGB SYSTEM -RGB B- menu appears.

Item	Function
RGB -EXT SYNC	Monitors the RGB signal while operating the monitor according to an external sync signal fed through the EXT SYNC connector.
RGB -SYNC ON G	Monitors the RGB signal while operating the monitor according to the sync signal from G channel.
COMP -EXT SYNC	Monitors the component signal while operating the monitor according to an external sync signal fed through the EXT SYNC connector.
COMP -SYNC ON Y	Monitors the component signal while operating the monitor according to the sync signal from Y channel.

When the LINE A/B button is pressed

If you select the RGB SYSTEM menu when LINE A or LINE B is selected with the LINE A/B button, the following menu appears.

To select the AFC (Automatic Frequency Control) time constant

If the signal input to the monitor from a VCR is deviated from the color system specifications, vertical lines of the picture may skew on the upper part of the monitor screen. You can reduce this problem by selecting the proper AFC time constant on the AFC menu.

4 AFC menu

Item	Function
FAST	Sets the AFC time constant to 1 msec.
SLOW	Sets the AFC time constant to 2 msec.

Note

If the picture is still skew even if you change the AFC setting, another problem can be considered. Check your VCR.

To confirm the current menu settings for the monitor

You can confirm the status of the current settings on each menu on the STATUS menu.

5 STATUS menu

When LINE A or LINE B is selected with the LINE A/B button

When the LINE A or LINE B is selected, the column of SYS and SYNC are displayed as follows.
SYS: – –
SYNC: – –

To reset the monitor status to the factory settings

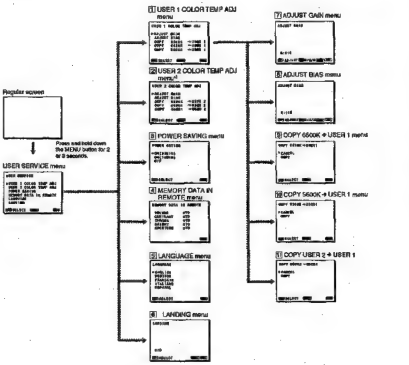
You can reset the settings on all menus to the factory settings on the FACTORY PRESET menu.

6 FACTORY PRESET menu

Item	Function
CANCEL	Cancels "FACTORY PRESET".
RESET	Resets all settings to the factory settings except for the "LANGUAGE" setting.

USER SERVICE Menus

USER SERVICE menu tree



a) This menu has the same sub menus as the USER 1 COLOR TEMP ADJUST menu: ADJUST GAIN, ADJUST BIAS, COPY 6500K → USER 2, COPY 5600 K → USER 2 and COPY USER 1 → USER 2.

List of operation menus

The following list shows the function and factory setting and reference page of USER SERVICE menus. You can change the factory setting using the menu. To reset the settings to the factory-settings, select RESET from the FACTORY PRESET menu.

For details, see "To reset the monitor status to the factory settings" on page 23.

User service menu	Function	Factory setting	Reference page
1 USER 1 COLOR TEMP ADJ	Adjusts the color temperature of USER 1 setting.	ADJUST GAIN	26
2 USER 2 COLOR TEMP ADJ	Adjusts the color temperature of USER 2 setting.	ADJUST GAIN	26
3 POWER SAVING	Activates the power saving function.	ON (30 MIN)	27
4 MEMORY DATA IN REMOTE	Confirms the data set by the computer in remote control mode.		27
5 LANGUAGE	Selects the menu language.	ENGLISH	27
6 LANDING	Adjusts the signal landing.	STD	27
7 ADJUST GAIN	Adjusts the gain of R, G or B channel.	USER 1: data of 6500 K	28
8 ADJUST BIAS	Adjusts the bias of R, G or B channel.	USER 2: data of 5600 K	28
9 COPY 6500K → USER 1	Copies the color temperature data of 6500 K to USER 1.	CANCEL	28
10 COPY 5600K → USER 1	Copies the color temperature data of 5600 K to USER 1.	CANCEL	28
11 COPY USER 2 → USER 1	Copies the color temperature data of USER 1 to USER 2.	CANCEL	28

Displaying the USER SERVICE menu

With the regular screen displayed, press and hold down the MENU button for 2 or 3 seconds.
The USER SERVICE menu appears.

USER SERVICE menu functions

This section explains settings which you can change using the USER SERVICE menus.

To adjust the white balance

The white balance can be adjusted using the color temperature setting.
You can adjust the color temperature on the USER SERVICE menus of USER 1 and USER 2 to obtain a color temperature other than the factory settings of 6500K and 5600K.

Note

USER 1 is set to 6500K and USER 2 is set to 5600K in the factory setting each.
The following explains how to change the USER 1 COLOR TEMP ADJ menu setting.

1 USER 1 COLOR TEMP ADJ menu

1 Select the desired color temperatures (6500K, 5600K or USER 2) to be used as standard when adjusting the color temperature by pressing the ↑ or ↓.

Item	Meaning
COPY 6500K → USER 1	The color temperature data of 6500K is copied to USER 1.
COPY 5600K → USER 1	The color temperature data of 5600K is copied to USER 1.
COPY USER 2 → USER 1	The color temperature data of USER 1 is copied to the one set as USER 2.*

a) This is effective to preserve the original set temperature of USER 2. You can modify the value based on the values of USER 2.

2 Press the ENTER button.
The following menu appears.

9 COPY 6500K → USER 1 menu

3 Move the cursor ( ) to COPY by pressing the ↑ or ↓ and press the ENTER button.

The message "DATA COPIED" appears when copying is completed.

4 Press the MENU button.
The standard color temperature menu displayed in step 1 appears.

5 Adjust the bias and gain if you want to modify the copied color temperature.

Item	Function
GAIN	To adjust white balance (used to compensate for high intensity lighting)
BIAS	To adjust the black balance (used to compensate for low intensity lighting)

① Move the cursor ( ) to ADJUST GAIN by pressing the ↑ or ↓ and press the ENTER button.
The ADJUST GAIN menu appears.

7 ADJUST GAIN menu

② Select the R, G or B channel by pressing the SELECT button.

③ Adjust the volume of the selected channel by pressing the + or – buttons.

④ Press the EXIT button.
The standard color temperature menu reappears and the cursor is positioned on ADJUST BIAS.

⑤ Repeat step ② and ③ to adjust the bias.
The screen displays with the adjusted value, but the data is not yet stored.

To reset the settings to the previous values
Press the ↑/+ and ↓/– buttons (these buttons work as RESET button on the menu) simultaneously.

6 Press the MENU button.
The adjusted values are stored in memory.

To activate the power saving function

Turn the power saving function on in the following menus.

8 POWER SAVING menu

Item	Function
ON (30 MIN)	Reduces the power consumption to approx. 25%, 30 minutes after sensing the absence of sync signal.
ON (10 MIN)	Reduces the power consumption to approx. 25%, 10 minutes after sensing the absence of sync signal.
OFF	Turns off the power saving function.

To confirm the data set by the computer in remote control mode

You can confirm the settings controlled from the remote computer, such as volume, contrast, chroma, brightness and aperture. When you select MEMORY DATA IN REMOTE on the USER SERVICE menu and press the ENTER button, the MEMORY DATA IN REMOTE menu appears.

4 MEMORY DATA IN REMOTE menu

To select the menu languages

You can select the menu language from the following five languages: English, German, French, Italian and Spanish on the LANGUAGE menu.

5 LANGUAGE menu

To adjust the landing

If the color is not uniform even after you press the DEGAUSS button, you can adjust the landing so as to obtain color uniformity on the LANDING menu.

6 LANDING menu

The following two methods are available to adjust the landing.
One is to adjust landing as inputting the signal with which the horizontal lines are displayed.
The other is to adjust landing as inputting the signal with which the whole screen becomes whitish.
When inputting the signal for the horizontal lines
Adjust using the + and - buttons until the lines become horizontal.
When inputting the signal with which the whole screen becomes whitish
Adjust using the + and - buttons until the white color becomes as uniform as possible.
To reset the setting to standard (0d)
Press the ↑/+ and ↓/- buttons together.

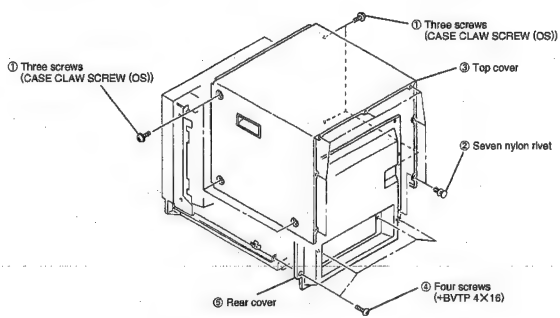
Troubleshooting

This section may help you isolate the problem. Should the problem persist, unplug the unit and contact your Sony dealer or local authorized Sony service facility.

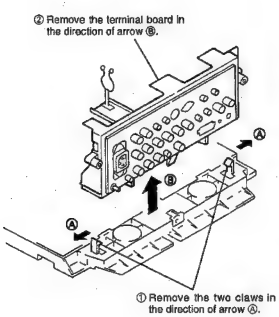
Symptom		Check these items
No picture	If neither the POWER indicator nor POWER SAVING indicator is lit	Check that the power cord is properly connected. Check that the power switch is set to ON.
	If the POWER SAVING indicator is lit	• Check the power switch on the video equipment connected to the monitor is set to ON. • Check the input signal and select the corresponding input channel pressing the LINE A/B or RGB/COMPONENT A/B select buttons.
If the POWER SAVING indicator blinks without the picture displayed		When the monitor detects the abnormal state, the monitor automatically stops operation and makes the POWER SAVING indicator blink. Turn the monitor power off once, and turn the power on again after about five minutes. If the POWER SAVING indicator still blinks, unplug the monitor and contact your Sony dealer or local authorized Sony service facility.
If on-screen menus do not appear		REMOTE (FRONT LOCK) mode is selected on the REMOTE (RS-232C) menu. For details, see "To control the monitor via the RS-232C interface" on page 22.
If the color display is non-uniform		Trip the power switch once to activate auto-degauss cycle. This function is to demagnetize the CRT to obtain a neutral field for uniform color reproduction. If a second degauss cycle is needed, allow a minimum interval of 20 minutes for the best result. Or adjust the landing beam on the LANDING menu. For details, see "To adjust the landing" on page 27.
If white does not look white		Perform color temperature adjustment. For details, see "To adjust the white balance" on page 26.
If the screen is too bright and the contrast in the light area is weakened		Terminate the unit to which the cable connected to the loop-through output connectors on the monitor is connected. This monitor is 75-ohm terminated. However, when you connect the cable to the loop-through output connectors and do not connect the other side of the cable, loop-through output connector on the monitor is unterminated.
If picture bounces or has wavy oscillations		Select the appropriate sync signal on the RGB SYSTEM menu. For details, see "To select the signal to be monitored through the RGB/COMPONENT connectors" on page 22.
If the picture is greenish (or pinkish (magenta))		When the picture is greenish: RGB is designated on the RGB SYSTEM menu. Select COMP on the RGB SYSTEM menu. When the picture is pinkish (magenta): COMP is designated on the RGB SYSTEM menu. Select RGB on the RGB SYSTEM menu. For details, see "To select the signal to be monitored through the RGB/COMPONENT connectors" on page 22.
If the picture is tilted		Adjust the landing on the LANDING menu. For details, see "To adjust the landing" on page 27.

SECTION 2
DISASSEMBLY

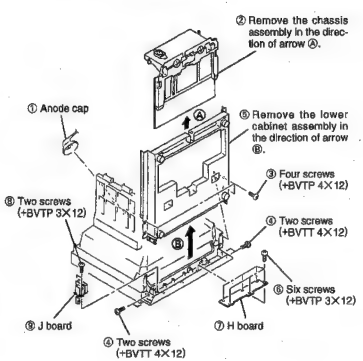
2-1. TOP COVER AND REAR COVER REMOVAL



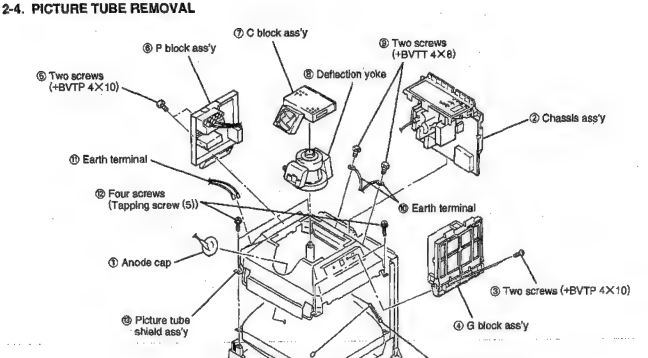
2-2. TERMINAL BOARD REMOVAL



2-3. J, H BOARDS REMOVAL



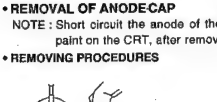
2-4. PICTURE TUBE REMOVAL



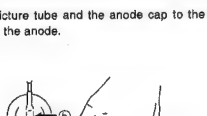
• REMOVAL OF ANODE-CAP

NOTE : Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon paint on the CRT, after removing the anode.

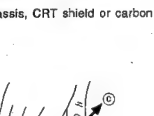
• REMOVING PROCEDURES



① Turn up one side of the rubber cap in the direction indicated by arrow ⓐ.



② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ.



③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ⓒ.

• HOW TO HANDLE AN ANODE-CAP

① Don't hurt the surface of anode-caps with sharp shaped material!

② Don't press the rubber hardly not to hurt inside of anode-caps!
A material fitting called as shatter-hook terminal is built in the rubber.

③ Don't turn the foot of rubber over hardly!
The shatter-hook terminal will stick out or hurt the rubber.

SECTION 3
CIRCUIT DESCRIPTION

3-1. A (1/4) Board (page 1)

This monitor can receive the video signal of both f_H = 15.625kHz and f_H = 31.25kHz. The input video signal (PAL and others) of f_H = 15.625kHz is DOUBLE SCAN-converted at the B board which is the signal of f_H = 31.25kHz, and displayed on CRT screen. The signal of f_H = 15.625kHz is abbreviated as 15K, the DOUBLE SCAN-converted 15K signal as FF (Flicker Free) and the input signal having f_H = 31.25kHz from the beginning as 31K in this section of circuit description.

Page 1 shows the signal processing circuit of 15K, and the respective sync separator circuit of 15k and 31K. IC10 (CXD2024AQ) is a digital comb filter operating on the 4 fsc clock which is also used in the chroma decoder of IC13 (M51279FP). If the signal at TP20 (VCXO) is not output at the frequency of 4 fsc, no output comes out from IC10 pin ㉒ (Y. OUT). CP1 is the PAL U/V separator. IC11 (MM1231XFF) switch 5 is the switch selecting either the LINE A/B signal or the RGB/COMP A/B signal, and sends the pin ③ output to the sync separator circuit IC6 (MM1111XFF). The IC11 output 15K is amplified and sent to the B board.

3-2. A (2/4) Board (page 2)

Page 2 shows the signal processing circuit for 31K and FF. IC1005 (MM1231XFF) SW. 6 is the selector switch which selects either the FF output signal from the B board or the 31K output signal from the Q board (input/output terminal board). If the RGB mode is selected, the selected signal is sent to IC1015 (MM1231XFF) SW.7 directly. The component signal (including video and Y/C) is sent to the chroma volume control circuit, aperture circuit and to the matrix circuit.

IC1022 and IC1023 (CXA1521M) constitute the chroma volume control circuit. The delay lines DL1001 and DL1002, and the related transistors form the aperture circuit. The output signal of the aperture circuit is buffered by Q1036 and added to the Y signal through R1116. IC1007 and IC1010 (CXA1211M) are the video volume control which determines the matrix gain. IC1008 and IC1009 (MC14066BF) are the clamp circuit.

The transistors Q1016, Q1035 and Q1043 are the additive operation transistors which convert the component signal to the RGB matrix signal. IC1016 (CXA1739S) controls the auto white balance, contrast, brightness and aperture. It switches the OSD (On Screen Display) characters. IC1003 (MC74HC158BF) SW.9 selects either the FF sync or 31K sync signal. the selected sync is sent to IC2013 (page 3). The output signal from IC1016 (R. G. B) are input to the C board.

3-3. A (3/4) Board (page 3)

Page 3 has the control CPU and the small signal processing circuit of the deflection system. IC2003 (control CPU) is the heart of this monitor having the functions such as system identification, nonvolatile RAM control, key scan, remote identification and peripheral control. The system identification is performed by observing the signal frequency at pin ⑰ (2H. SYNC), and identifies if the signal is 15K or 31K. Result of identification controls IC1001 pin ⑭ (FF/PROG). Then the system is identified by observing the signals at pin ④ (v. sync) and pin ② (INTER/PROG). In accordance with the result of system identification, the appropriate data from pin ㉘ and CLK from pin ㉗ are sent to the peripheral devices. The peripheral devices are such devices as the extended shift register (IC1001), the electronic volume control (IC1002, IC1011, IC2015), the deflection signal generator (IC2010), the OSD CPU (IC2014) and others.

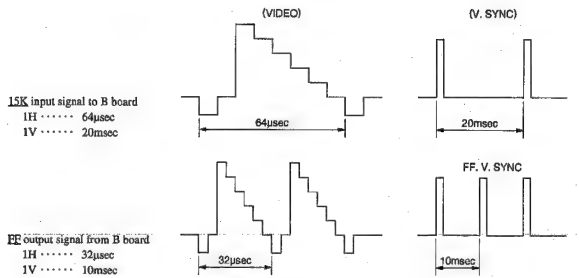
As long as the CPU operates normally, the clock signal appears at pin ⑩ PIC and the positive polarity pulse of almost V rate appears at pin ③ (watch dog timer), with pin ⑧ being set to H. IC2005 and IC2006 are the nonvolatile RAM in which the default and user adjustment data are stored. The RAMs communicate with the CPU through IIC bus. IC2008 (CXA1470AM) generates sawtooth wave and parabola wave. IC2010 (CXA8021M) performs addition and multiplication of the waveforms generated by IC2008 under the control of CPU, and generates the deflection base waveform such as pin ⑤ (V. DEFL) signal. IC2013 (CXA1543M) is the H/V oscillator generating the HD and VD signals which are the reference timing of the deflection system.

3-4. A (4/4) Board (page 4)

Page 4 has the horizontal pin distortion correction circuit, high voltage control circuit, high voltage output circuit, audio circuit, LCC (landing correction circuit coil) circuit, protector circuit and video pre-amplifier circuit. IC3003 (CXA1544M) is the PWM (Pulse Width Modulation) controller for horizontal pin distortion correction and high voltage control. Q3031 is the high voltage output transistor. IC3009 is the output amplifier for LCC circuit. IC3030 is the +B power supply switch which is turned on and off by the PWM controller output in order to maintain the HV (high voltage) at a constant voltage. IC3007 is the high voltage protector and the IK protector. If Q3031 (HV OUT) is broken to cause short circuit, Q3030 and R3164 could be broken at the same time.

3-5. B Board

The B board has the digital double scan circuit which convert 15K to FF signal. By this circuit, the PAL field frequency is made to be 100Hz so that one field signal is made to scan the CRT two times thus removing the field flicker.



The output signal (FF) from the B board is compressed to 1/2 in time base. IC701, IC702, IC703 constitute an A/D converter for TG/Y, B/B-Y, R/R-Y with the sampling clock of about 14.2MHz. IC708, IC709, IC710 are the field memory. IC 711 is the D/A converter with the read clock of about 28.4MHz.

IC712 is the flicker free control CPU having the functions of the double scan processing of H. sync, V. sync, frequency division of 28.4MHz clock, A/D conversion, memory and D/A timing control. IC716 selects the sync signal when no signal is input. IC714 selects the AFC filter, and IC704 is the VCO (with output of about 28.5MHz). The output signal from the B board is supplied through the low-pass filter of FL708, FL709 and FL710.

In summary, the B board receives 15K from the A board page 1, performs the double scan (flicker free) processing for the signal and H/V sync, and outputs them to the A board page 2.

3-6. P Board

The P board has the horizontal output circuit, vertical output circuit and the vertical static convergence circuit (V. STA). IC901 (TDA8172) is the V. output IC. Because the positive power supply (+15V) of the V. output circuit is generated from the 3rd order output of the FBT (T3003), the high voltage circuit stops if the V. output circuit is stopped. Q911 is H. output transistor. The horizontal PIN distortion correction is controlled by +B switch of Q903. If Q911 becomes defective and shorted, Q903 and R916 could be broken at the same time. IC904 (2/2) is the V. STA circuit. Output of the V. STA is supplied to the neck twist coil (NTC) which is located at the CRT neck.

3-7. C, G, H and Q Boards

The C board is the video output board located at the CRT neck. The G board is power supply board. If any abnormality occurs in its load, R616, R617, R619, R620, R629, F601 or F602 could be opened. The H board is the front control board. The Q board is the input/output terminal board on the rear of the monitor. IC403 is the RS-232C interface which converts the RS-232C signal level to the +5V level.

3-8. Power Saving Circuit

In this monitor, the CPU (IC2003) monitors pin ④ (V. sync) and pin ⑰ ($\overline{2H, SYNC}$), and enter the power saving operation if "NO SYNC" is detected for the period of 10 minutes or 30 minutes. If the monitor enters the power saving operation, Pin ① (AP01) of the CPU is set to H which stops the HV. out drive pulse through Q3015 of the A board page 4 which turns off the high voltage circuit. Then, pin ② (APO2) is set to H which stops the horizontal drive pulse (HD) through IC2007 (4/5), and also stops the vertical reference pulse (V. DEFL) through IC2012 which stops the V. out.

3-9. Trouble Detection Circuit

If this monitor has a trouble, the trouble detection circuit is included to help locating the cause of trouble. The trouble detection is performed by the pin ⑱ to pin ⑳ of the CPU (IC2003). The troubles which are not input to the CPU cannot be detected. Result of trouble detection is displayed by the flashing of the POWER SAVING indicator.

Number of flashing and main cause of trouble

1 time ····· H. output (P board Q911) is stopped.
2 times ····· V. output (P board IC901) is stopped.
3 times ····· HV protector is operating.
4 times ····· IK protector is operation or excess current of +B power supply of HV output
5 times ····· Fan is stopped, or HV output circuit is stopped resulting in stop of fan.
6 times ····· IIC bus communication error
7 times ····· Other errors

In the case if no picture is output and the POWER SAVING INDICATOR does not flash.

If the POWER SAVING indicator does not turn on, +12V power supply could be defective. Press the UNDER SCAN switch and confirm that the UNDER SCAN indicator turns on. If it does not turn on, +5V power supply might be defective, or fuses (F601, F602) are open. In other word, trouble in +12V power line can be detected from the POWER indicator while +5V power line can be detected from the UNDER SCAN indicator. If both of them are defective, the entire power supply unit could be defective (blown fuse, no AC input, defective SRT, and others).

SECTION 4
SET-UP ADJUSTMENTS

4-1. NOTE

How to Enter and Use the Service Mode

1. How to enter the service mode

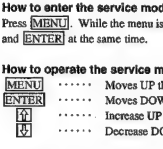
Press MENU. While the menu is appearing, press DEGAUSS and ENTER at the same time.

2. How to operate the service mode

MENU ····· Moves UP the item.
ENTER ····· Moves DOWN the item.
↑ ····· Increase UP the data.
↓ ····· Decrease DOWN the data.

example: Service mode display

"▷" is the value stored in the nonvolatile memory.



3. How to WRITE (save) the data.

Press DEGAUSS, and "WRITE" appears. Remove the hand from the key once. Press DEGAUSS again, and " * " appears, and the data is stored.

4. How to set the FACTORY SET (default memory when shipped from the plant)

Keep pressing DEGAUSS for 2 seconds, and "FACTORY SET" appears. Remove the hand from the key once. Press DEGAUSS again, and FACTORY SET is executed.

If FACTORY SET is executed, No. 202 FACTORY FLAG = "0" (DONE) is obtained. FACTORY SET can be executed only once. Since this setting is executed in the plant, this command is not necessary to operate in service (field).

5. How to exit from the service mode

While pressing DEGAUSS, press ENTER.

Detection of Cause of Trouble (Reference)

Cause of trouble can be located by the flashing of LEDs of this set.

- Main cause of flashing of the POWER SAVING LED
  - Flashing once ····· H. OUT is stopped.
  - Flashing twice ····· V. OUT is stopped.
  - Flashing three times ··· HV. protector error.
  - Flashing four times ··· IK. protector error or excessive current of +B power line for HV OUT.
  - Flashing five times ··· Fan is stopped or fan is stopped as the HV OUT circuit is stopped.
  - Flashing six times ···· I²C bus communication error. (nonvolatile memory error)
  - Flashing seven times ·· Other errors.
- The POWER LED does not illuminates or dark.
  Main cause 12V power (from the G board) is defective, blown main fuse, or excessive load to 12V power line.
- The REMOTE LED does not illuminate in the remote mode.
  Cause: 5V power (digital) circuit is defective.
- Picture does not appear.
  Microprocessor is not inserted. G2 voltage is too low, etc.

Default Setting When Shipped From the Plant

1. Select the normal mode.
2. Execute item "4. How to set the FACTORY SET (default memory when shipped from the plant)".

   No. 202 FACTORY FLAG = "0"

3. Set the front controls to the factory setting positions:

APERTURE	Minimum
BRIGHT	50% (center click position)
CHROMA	50% (center click position)
CONTRAST	80% (center click position)
VOLUME	30%
POWER switch	OFF

4. Execute RESET.

   No. 210 RESET

Service Menu Item List

No.	Mode	Size	Scan	Item	No.	Remarks
1				G2	1	
2				H.OSC	2	
3				H.SIZE	3	
4				H.CENTER	4	
5				H.PHASE	5	
6	FREE-PAL			H.KEY	6	
7				H.PIN	7	
8				V.SIZE	8	
9				V.CENTER	9	
10				V.PHASE	10	
11	PAL	4 : 3	NORMAL	H.OSC	11	
12				H.SIZE	12	
13				H.CENTER	13	
14				H.PHASE	14	
15				H.KEY	15	
16				H.KEY.BAL	16	
17				H.PIN	17	
18				H.PIN.BAL	18	
19				V.SIZE	19	
20				V.CENTER	20	
21				V.PHASE	21	
22				V.LIN.BAL	22	
23				V.LIN	23	
24				H.BLK	24	
25				V.BLKT	25	
26				V.BLKB	26	
27			UNDER	H.SIZE	27	
28				H.KEY	28	
29				H.PIN	29	
30				V.SIZE	30	
31				H.BLK	31	
32				V.BLKT	32	
33				V.BLKB	33	
34		16 : 9	NORMAL	H.KEY	34	
35				H.PIN	35	
36				V.SIZE	36	
37				V.BLKT	37	
38				V.BLKB	38	
39			UNDER	H.KEY	39	
40				H.PIN	40	
41				V.SIZE	41	
42				V.BLKT	42	
43				V.BLKB	43	
44	NTSC	4 : 3	NORMAL	H.SIZE	44	
45				H.PHASE	45	
46				H.KEY	46	
47				H.KEY.BAL	47	
48				H.PIN	48	
49				H.PIN.BAL	49	
50				V.SIZE	50	
51				V.CENTER	51	
52				V.PHASE	52	
53				H.BLK	53	
54			UNDER	H.SIZE	54	
55				H.KEY	55	

No.	Mode	Size	Scan	Item	No.	Remarks
56	NTSC	4 : 3	UNDER	H.PIN	56	
57				V.SIZE	57	
58				H.BLK	58	
59		16 : 9	NORMAL	H.KEY	59	
60				H.PIN	60	
61				V.SIZE	61	
62			UNDER	H.KEY	62	
63				H.PIN	63	
64				V.SIZE	64	
65	2PAL	4 : 3	NORMAL	H.PHASE	65	
66				H.KEY	66	
67				H.KEY.BAL	67	
68				H.PIN	68	
69				H.PIN.BAL	69	
70				V.SIZE	70	
71				V.CENTER	71	
72				V.PHASE	72	
73				V.LIN.BAL	73	
74				V.LIN	74	
75			UNDER	H.KEY	75	
76				H.PIN	76	
77				V.SIZE	77	
78		16 : 9	NORMAL	H.KEY	78	
79				H.PIN	79	
80				V.SIZE	80	
81			UNDER	H.KEY	81	
82				H.PIN	82	
83				V.SIZE	83	
84	2NTSC	4 : 3	NORMAL	H.PHASE	84	
85				H.KEY	85	
86				H.KEY.BAL	86	
87				H.PIN	87	
88				H.PIN.BAL	88	
89				V.SIZE	89	
90				V.CENTER	90	
91				V.PHASE	91	
92			UNDER	H.KEY	92	
93				H.PIN	93	
94				V.SIZE	94	
95		16 : 9	NORMAL	H.KEY	95	
96				H.PIN	96	
97				V.SIZE	97	
98			UNDER	H.KEY	98	
99				H.PIN	99	
100				V.SIZE	100	
101	1125		NORMAL	H.OSC	101	
102				H.SIZE	102	
103				H.CENTER	103	
104				H.PHASE	104	
105				H.KEY	105	
106				H.PIN	106	
107				V.SIZE	107	
108				V.PHASE	108	
109				H.BLK	109	
110				V.BLKB	110	

Service Menu Item List

No.	Mode	Size	Scan	Item	No.	Remarks
111	1125		UNDER	H.SIZE	111	
112				H.KEY	112	
113				H.PIN	113	
114				V.SIZE	114	
115				H.BLK	115	
116				V.BLKB	116	
117	1050		NORMAL	H.SIZE	117	
118				H.PHASE	118	
119				V.SIZE	119	
120				V.PHASE	120	
121			UNDER	H.SIZE	121	
122				V.SIZE	122	
123	1250		NORMAL	H.SIZE	123	
124				H.PHASE	124	
125				V.SIZE	125	
126				V.PHASE	126	
127			UNDER	H.SIZE	127	
128				V.SIZE	128	
129	PAL			CRYSTAL	129	
130				COLOR	130	
131				HUE	131	
132				U-PHASE	132	
133				R-Y.DA1	133	
134				Y.DA1	134	
135				B-Y.DA1	135	
136				SUB.B-Y.DA	136	
137				Y.DA2	137	
138				SUB.B-Y.DA	138	
139				MDA1	139	
140				MDA2	140	
141				MDA3	141	
142				MDA4	142	
143	PAL Y/C	Y/C		R-Y.DA1	143	
144				Y.DA2	144	
145				B-Y.DA1	145	
146	NTSC			CRYSTAL	146	
147				COLOR	147	
148				HUE	148	
149				U-PHASE	149	
150				R-Y.DA1	150	
151				Y.DA1	151	
152				B-Y.DA1	152	
153	NTSC Y/C	Y/C		R-Y.DA1	153	
154				Y.DA2	154	
155				B-Y.DA1	155	
156	COMP	N10		R-Y.DA1	156	
157				Y.DA1	157	
158				B-Y.DA1	158	
159		BETA		R-Y.DA1	159	
160				B-Y.DA1	160	
161	RGB			R-Y.DA1	161	
162				Y.DA1	162	
163				B-Y.DA1	163	
164	2COMP			Y.DA2	164	
165				MDA1	165	

No.	Mode	Size	Scan	Item	No.	Remarks
166	2COMP			MDA2	166	
167	COMP	HD		MDA1	167	
168				MDA2	168	
169				MDA3	169	
170				MDA4	170	
171	6500K			RED.BIAS	171	
172				GREEN.BIAS	172	
173				BLUE.BIAS	173	
174				RED.GAIN	174	
175				GREEN.GAIN	175	
176				BLUE.GAIN	176	
177	5600K			RED.BIAS	177	
178				GREEN.BIAS	178	
179				BLUE.BIAS	179	
180				RED.GAIN	180	
181				GREEN.BIAS	181	
182				BLUE.BIAS	182	
183				SUB.BRIGHT	183	
184		4 : 3	NORMAL	SUB.CONTRAST	184	
185			UNDER	SUB.CONTRAST	185	
186		16 : 9	NORMAL	SUB.CONTRAST	186	
187			UNDER	SUB.CONTRAST	187	
188				OSD.DA	188	
189				PROTDA	189	
190				REF.DA	190	
191				LINE SELECT	191	
192				SCAN SELECT	192	
193				RGB SYSTEM	193	
194				N10/BETA	194	
195				COLOR TEMP	195	
196				REMOTE	196	
197				DISPLAY	197	
198				LANGUAGE	198	
199				POWER SAVING	199	
200				SPECIAL ENABLE	200	* 1
201				AGING MODE	201	
202				FACTORY FLAG	202	* 2
203				SERVICE OSD	203	
204				SERVICE FLAG	204	
205				FAILURE	205	
206				USERDATA CLEAR	206	
207				DEGAUSS ON	207	
208				WRITE	208	
209				READ	209	
210				RESET	210	* 3
211				P.SAVING ON/OFF	211	* 4
212				OSD MODE	212	
213				SETUP	213	
214				CONT B	214	* 5
215				B&W	215	
216				TALLY	216	

* 1 : special = 1
* 2 : 0 is set when shipped from the plant
* 3 : FACTORY PRESET
* 4 : Forced
* 5 : AFC

4-2. Working Conditions

1. Standard Inspection Setup

Perform the adjustments in the following setup unless other specified.

APERTURE	Minimum
BRIGHT	50% (center click position)
CHROMA	50% (center click position)
CONTRAST	80% (center click position)
VOLUME	50%

4 : 3 N/S (normal scan)

If the main power is turned on again, enter the service mode and perform No. 210 RESET.

Note 1: The letters in the square mark [ ] indicate the item of the service mode.
Whenever any adjustment is made in the service mode, perform WRITE to save the data.
If the system or SCAN remains the same setting, the data remains in the RAM.

Note 2: Be careful that LANDING = STD is established. If RESET is performed, STD is obtained.

2. AC Voltage Setting

AC 220V±3V

Use a variable transformer or separate (NF) power supply having capacity of 1.5A or more with distortion of 3% or less.

3. Specifications of Required Signals

• Signal Specification Table

Signal		Signal Contents	Specified Level p-w
VIDEO (Composite Y/C)	NTSC	100% white (Y)	0.714 [V]
		75% white (Y)	0.536 [V]
	PAL	100% white (Y)	0.700 [V]
		75% white (Y)	0.525 [V]
COMPONENT	N10	100% white (Y)	0.700 [V]
	SMPTE	75% white (Y)	0.525 [V]
	Double Speed	100% color (R-Y, B-Y, Pr, Pb) (This item is in p-p value.)	0.700 [V]
	HD (BTA S-001)	75% color (R-Y, B-Y, Pr, Pb) (This item is in p-p value.)	0.525 [V]
	BETACAM	100% white (Y)	0.714 [V]
		75% white (Y)	0.536 [V]
		100% color (R-Y, B-Y, Pr, Pb) (This item is in p-p value.)	1.008 [V]
		75% color (R-Y, B-Y, Pr, Pb) (This item is in p-p value.)	0.756 [V]
RGB	625 2 : 1 525 2 : 1 625 1 : 1 525 1 : 1 HD (BTA S-001)	100% white (R, G, B)	0.700 [V]
		75% white (R, G, B)	0.700 [V]
AUDIO		−5.0dBs	0.436Vrms

4-3. Landing Adjustment

1. Direct the set toward either east or west.

   Set the CONTRAST to MAX.
   Set the BRIGHTNESS for good viewing.
   Receive the PAL green signal.

2. Move back the DY.

   Note: If the AC power is 50Hz, remove the input signal to make the set free-running and degauss the set.

3. Degauss the set using an external degausser.

4. Adjust the purity magnet until the green raster comes to the center of screen. (Fig. 1)

5. Move the DY forward until the entire screen become green only screen. (Fig. 3)

6. Check then the B and R signal. If a signal color cannot be obtained, return to step 5. (Fig. 6, Fig. 9)

7. Adjust tilt of the DY.

8. Tighten the DY stop bracket gently.

9. Return the CONTRAST and BRIGHTNESS to standard condition.

10. Receive the PAL green signal. Set the CONTRAST to MAX.

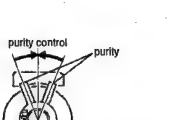
11. Degauss the entire set using the hand degausser, and again degauss the CRT surface finally.
    Then degauss the entire screen of CRT using manual degauss.

12. Adjust the DY position, purity, DY tilt, centering and landing at four comers. Tighten the DY stop bracket temporarily.

13. Regarding the neck up and down adjustments, and the neck right and left adjustments of DY, perform these neck adjustments until the trapezoidal waveform is symmetrical in vertical and horizontal directions. Then insert the wedges so that the DY is fastened.

14. Check landing at four comers. If landing error is found, attach the disk-magnets to correct the landing error.

    The magnets must be attached in the diagonal lines in the range of 80 to 100mm from the DY.
    If magnets are used, degauss the set and confirm it.
    Number of magnet must be 4 or less. Use one magnet at maximum for one corner.



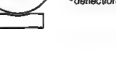


Fig. 1

Fig. 2 Fig. 3 Fig. 4

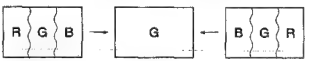


Fig. 5 Fig. 6 Fig. 7

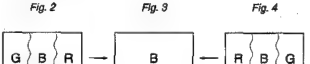
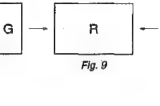


Fig. 8 Fig. 9 Fig. 10

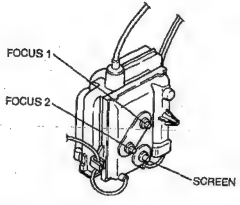


15. Check the color purity of R, G and B using the single color respectively.

16. Check that the DY is not tilted, and tighten the DY stop bracket and fix it using white paint.

4-4. Focus Adjustment

1. Receive the 625 monoscope signal.
2. Adjust the H. FOCUS (FOCUS 1 of FBT) until the vertical lines have the optimum (just) focus.
3. Adjust the V. FOCUS (FOCUS 2 of FBT) until the horizontal lines have the optimum (just) focus.
4. Repeat adjustment of steps 2 and 3 to obtain tracking of them until the entire screen has the optimum focus as an average.

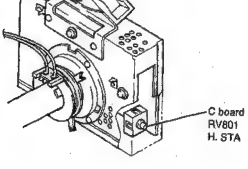


4-5. Convergence Adjustment

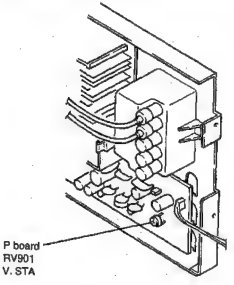
1. Receive the PAL dot signal

   Set the CONTRAST to good viewing setting.
   Set the BRIGHTNESS to MIN.

2. Align the markings on the 6-pole magnets of the CRT neck assembly.
3. Perform the rough convergence adjustment in the horizontal direction using the H. STA (C board).



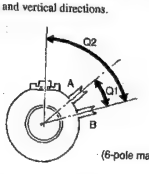
4. Perform the rough convergence adjustment in the vertical direction using the V. STA (P board).



5. Perform the manual degauss.
6. Receive the PAL cross-hatch signal.
7. Adjust the H. STA and the V. STA to show the three parallel lines of R. G. B intentionally.

   H. STA ····· on the C board (RV801)
   V. STA ····· on the P board (RV901)

8. Adjust the 6-pole magnets on the neck assembly so that the distance between R-G and between B-G becomes equal in both horizontal and vertical directions.

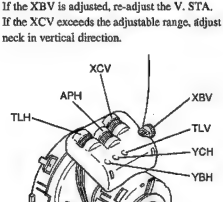


   Perform the static convergence correction by adjusting the two levers: angle Q1 between A and B, and tilt Q2. (When Q1 = 0, amount of correction = 0.)

9. Adjust the H. STA and V. STA until the convergence error at the center of display becomes zero.
10. Adjust TLV.

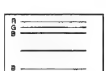
11. Adjust the XBV reactor so that the XBV convergence error becomes zero.
Adjust the XCV reactor so that the XCV convergence error becomes zero.

Note: If the XBV is adjusted, re-adjust the V. STA.
If the XCV exceeds the adjustable range, adjust the DY neck in vertical direction.

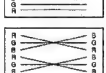


TLV ····· V. TILT

XCV ····· V. X. CROSS



XBV ····· V. X. BOW



12. Adjust the APH reactor to remove the H. AMP convergence error.

13. Adjust the TLH reactor to remove the H. TILT convergence error.

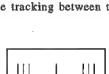
Note: If the TLH is adjusted, re-adjust the H. STA.

14. Adjust the YBH to remove the YBH convergence error.

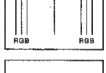
15. Adjust the YCH to remove the YCH convergence error.

Note: If the horizontal trapezoidal signal cannot satisfy the specification, perform the DY horizontal neck adjustment and obtain the tracking between the adjustments.

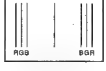
APH ····· H. AMP



TLH ····· H. TILT



YCH ····· H. Y. CROSS

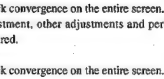


YBH ····· H. Y. BOW

16. Check convergence on the entire screen. Perform the H. STA adjustment, other adjustments and permalloy correction as required.

17. Check convergence on the entire screen.

<Convergence adjustment specifications>



A zone ····· 0.40mm
B zone ····· 0.48mm
(without cabinet)

18. Fix the XBV, XCV, APH, TLH and two 6-pole magnets with white paint.

19. Fix the DY spacer using RTV.

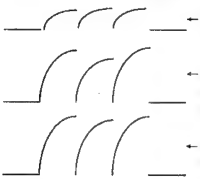
20. Fix the V. STA with white paint.
However, apply very small amount of white paint so that the white paint must not go into inside the adjustment control.

4-6. G2 Adjustment

1. Input the 625 monoscope signal.
2. Connect an oscilloscope probe to TP22 IK of the A board.
3. Enter the service mode. (item No. 1)
4. Adjust G2 so that amplitude of the 3 pulses on an oscilloscope is saturated respectively. (Refer to the illustration.)
5. Write the data.

Note 1: If saturated, the pulse amplitude will no more change even G2 is increased.

Note 2: Be careful not to increase G2 too much after saturated.



4-7. White Balance Adjustment

1. Input the 625 gray scale signal having 20-step gray scales (without burst) using the LINE A input.
2. Set the CONTRAST to 0% and BRIGHTNESS to 50% (center detent position).
3. Press MENU to select COLOR TEMP SELECT then select 6500K, and exit the MENU.
4. Enter the service mode. (item No. 183)

item No.	item			DATA
171	6500K	RED .	BIAS	100
172	6500K	GREEN.	BIAS	100
173	6500K	BLUE .	BIAS	100
174	6500K	RED .	GAIN	150
175	6500K	GREEN.	GAIN	150
176	6500K	BLUE .	GAIN	150
177	5600K	RED .	BIAS	100
178	5600K	GREEN.	BIAS	100
179	5600K	BLUE .	BIAS	100
180	5600K	RED .	GAIN	150
181	5600K	GREEN.	GAIN	150
182	5600K	BLUE .	GAIN	150
183	SUB. BRIGHT			64

Initial data table

Note: Items No. 171, 174, 177 and 180 are fixed.

5. Adjust the SUB BRIGHT so that the steps between 0 and 5 IRE are cut-off and the step higher than 10 IRE illuminate a little.
6. Write the data.
7. Input the 625 all white signal (without burst) from the LINE A.
8. Set the CONTRAST to 0% and BRIGHTNESS to 50% (center detent position).
9. Adjust luminance of the all white signal so that brightness of the CRT display is 3 nits.

   Note: After brightness is adjusted to 3 nits, never touch the BRIGHTNESS controls.

10. Advance to items No. 172 then to 173.
11. Adjust
    6500K GREEN BIAS and
    6500K BLUE BIAS
    so that the 6500K white balance (cut-off side) satisfies the specification as shown below. However, fix the RED and do not move.

    • Specification:
    6500K + 8MPCD

    Note: The white balance at the cut-off side is adjusted at 3 nits.

12. Write the data.

13. Adjust luminance of the all white signal to 100IRE at CONTRAST 50% and BRIGHTNESS 50%.

14. Advance to items No. 175 then to 176.

15. Adjust the following items until the white balance (high light side) at 6500K satisfies the specification below:
    6500K GREEN GAIN
    6500K BLUE GAIN.

    • Specification:
    6500K + 8MPCD

16. Write the data.

17. Repeat the above steps from 8 to 16 until the specification at the cut-off and high light sides is satisfied at the same time.

18. Exit the service mode.

19. Press the MENU button, and select COLOR TEMP SELECT. Select 5600K and exit the MENU.

20. Perform the same adjustment as the steps from 9 to 17 to the following items:
    item No. 178, 179, 181, 182
    6500K GREEN BIAS
    6500K BLUE BIAS
    6500K GREEN GAIN
    6500K BLUE GAIN.

    • Specification:
    5600K + 8MPCD

    Note: The white balance at the cut-off side is adjusted at 3 nits.

21. Exit the service mode.

22. Keep pressing the MENU button for 3 seconds or longer to enter the USER SERVICE menu.

23. Select the USER1 COLOR TEMP ADJ.
    Select then COPY 6500K - - > USER1. Move the cursor to COPY and press the ENTER button.

    Note: Copy the 6500K to the USER1.

24. After confirming that the color temperature of the screen changes, press the MENU button twice to return to the USER SERVICE menu display.

25. Select the USER2 COLOR TEMP ADJ.
    Select then COPY 6500K - - > USER2. Move the cursor to COPY and press the ENTER button.

    Note: Copy the 6500K to the USER2.

26. After confirming that the color temperature of the screen changes, press the MENU button several times to exit from the USER SERVICE menu display.

27. Press the MENU button to enter the MENU display and select COLOR TEMP SELECT. Select then 6500K and exit the MENU display.

4-8. SUB BRIGHTNESS Adjustment

Connect the input signal to LINE A connector.

1. Input the 625 monoscope signal.

2. Set the CONTRAST to minimum and BRIGHTNESS to 50% (center detent position).

3. Enter the service mode. (item No. 183)

4. Adjust the
   SUB BRIGHT
   so that the 10IRE illuminate a little and 0IRE is cut off.

5. Write the data.

4-9. SUB CONTRAST Adjustment

Connect the input signal to LINE A connector.

Note: N/S : NORMAL SCAN
U/S : UNDER SCAN

Item No.	item	DATA
184	4 : 3 NORMAL SUB. CONTRAST	200
185	4 : 3 UNDER SUB. CONTRAST	170
186	16 : 9 NORMAL SUB. CONTRAST	160
187	16 : 9 UNDER SUB. CONTRAST	140

Initial data table

1. Input the 625 all white signal (100IRE).

2. Set a color analyzer or luminance meter on CRT and measure the luminance. (Take note of the measured value.)

3. Set the scan size to *4:3 U/S*.

4. Enter the service mode. (item No. 185)

5. Adjust the
   4 : 3 UNDER SUB CONTRAST
   so that the luminance at the *4:3 U/S* mode equals to the luminance at *4:3 N/S* mode.

6. Set the scan size to *16:9 N/S*.
7. Advance to item No. 186.
8. Adjust the
   16 : 9 NORMAL SUB CONTRAST
   so that the luminance at the *16:9 N/S* mode equals to the luminance at *4:3 N/S* mode.
9. Set the scan size to *16:9 U/S*.
10. Advance to item No. 187.
11. Adjust the
    16 : 9 UNDER SUB CONTRAST
    so that the luminance at the *16:9 U/S* mode equals to the luminance at *4:3 N/S* mode.
12. Write the data.
13. Set the scan size to 4 : 3 N/S.

4-10. +B Power Line Check

1. Receive the PAL monoscope signal.
2. Confirm that the +B power line satisfies the specification.
   +B ····· 115±5V

4-11 HV. REF Adjustment

Adjust the HV. REF (TP3006) to satisfy the specification.
Write the data after adjustment.
Re-adjust the focus.

No. 190 REF. DA 6.480±0.003V

4-12 HV. PROT. REF Adjustment

Adjust the HV. PROT. REF (TP3006) to satisfy the specification.
Write the data after adjustment.
Re-adjust the focus.

No. 189 PROT. DA $10.460^{+0.000}_{-0.260}$ V

4-13 HV. PROT Check

Confirm that the raster disappears when 10.472 V is applied to the PROT (CN3008 pin-5). Turn off the main power of the set then turn on again.

Note: This is to confirm that the protector works at HV=30kV.

4-14 IK. PROT Check

Remove all input signals. Connect a constant current source to TP3009 (ABL) so that the current below is subtracted from TP3009. Confirm that the protector works and the raster disappears. Turn off the main power of the set then turn on again.

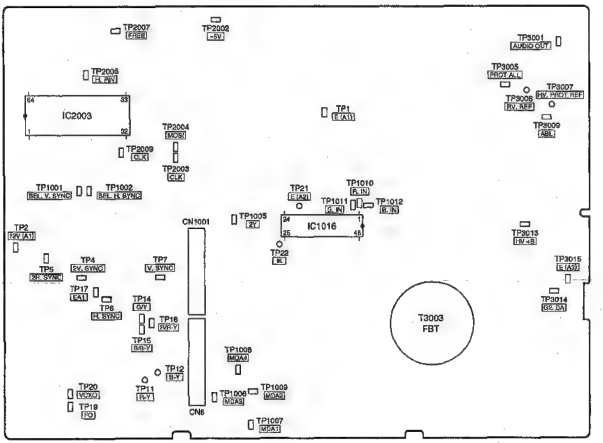
Constant current source −2.0mA

Note: The (–) terminal of the current load must be connected to the voltage of –5 V or less.

SECTION 5
CIRCUIT ADJUSTMENTS

5-1. A BOARD ADJUSTMENT

A BOARD – COMPONENT SIDE –



I. Preparation

* The signal which are input in the following adjustment items must have the signal amplitude as shown in the signal specification table below.

• Signal Specification Table

Signal		Signal Contents	Specified Level p-w
VIDEO (Composite Y/C)	NTSC	100% white (Y)	0.714 [V]
		75% white (Y)	0.536 [V]
	PAL	100% white (Y)	0.700 [V]
		75% white (Y)	0.525 [V]
COMPONENT	N10 SMPTE	100% white (Y)	0.700 [V]
		75% white (Y)	0.525 [V]
	Double Speed	100% color (R-Y, B-Y, Pr, Pb) (This item is in p-p value.)	0.700 [V]
	HD (BTA S-001)	75% color (R-Y, B-Y, Pr, Pb) (This item is in p-p value.)	0.525 [V]
	BETACAM	100% white (Y)	0.714 [V]
		75% white (Y)	0.536 [V]
		100% color (R-Y, B-Y, Pr, Pb) (This item is in p-p value.)	1.008 [V]
		75% color (R-Y, B-Y, Pr, Pb) (This item is in p-p value.)	0.756 [V]
RGB	625 2:1 525 2:1 625 1:1	100% white (R, G, B)	0.700 [V]
	525 1:1 HD (BTA S-001)	75% white (R, G, B)	0.700 [V]

II. G2 Adjustment

Connect the input signal to LINE A connector.

1. Input the PAL gray scale signal .
2. Set the CONT and BRT controls to the center click positions.
3. Enter the Service Mode (item No. 1).
4. Adjust G2 to obtain an appropriate brightness on screen.
5. Write the data.

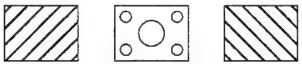
Ⅲ. Horizontal Oscillating Frequency Adjustment

1. PAL F0 Adjustment

1. After turning on the power for five minutes or longer, input the 625 monoscope signal.
2. Set the CONT and BRT controls to the center click positions.
3. Enter the Service Mode (item No. 11, 12, 15, 17).
4. Adjust the following items coarsely such that a picture on display does not show jitter.
   PAL 4 : 3 N/S H. OSC
   PAL 4 : 3 N/S H. SIZE
   PAL 4 : 3 N/S H. KEY
   PAL 4 : 3 N/S H. PIN
5. Apply DC +5V to +9V to *TP2007* FREE to enter the free run mode.
6. Connect a frequency counter to *TP3004* HD and adjust
   PAL 4 : 3 N/S H. OSC
   until the following specifications are satisfied.

   • Specification:
   H. OSC: $31.5^{+0.4}_{-0}$ kHz

7. Remove the external DC power supply.
8. Write the data.



H. OSC: low　　H. OSC: optimum　　H. OSC: high

Note: If an image on display is doubled when the external DC power supply is removed, increment data by +1 or +2 and write the data.

2. 1125 F0 Adjustment

1. Input the HD (Japan) monoscope signal.
2. Perform the same adjustment as item 1. PAL F0 Adjustment to the following adjustment controls.
   item No. 101, 102, 105, 106
   1125 N/S H. OSC
   1125 N/S H. SIZE
   1125 N/S H. PIN
   1125 N/S H. KEY

   • Specification:
   H. OSC: $33.75^{+0.4}_{-0}$ kHz

Note: If an image on display is doubled or top of an image is bent to the left when the external DC power supply is removed, increment data by +1 or +2 and write the data.

3. FREE-PAL F0 Adjustment

1. After turning on the power for five minutes or longer, remove all the input signals.
2. Set the CONT and BRT controls to the center click positions.
3. Enter the Service Mode (item No. 201).
4. Set the value of the AGING MODE to "1".
5. item No. 2, 3, 6, 7
6. Adjust the following items coarsely such that a picture on display does not show jitter.
   FREE – PAL H. OSC
   FREE – PAL H. SIZE
   FREE – PAL H. KEY
   FREE – PAL H. PIN
7. Connect a frequency counter to *TP3004* HD and measure frequency. (Take note the measured value.)
8. Apply DC +5V to +9V to *TP2007* FREE to enter the free run mode.
9. Adjust
   FREE – PAL H. OSC
   until the following specifications are satisfied.

   • Specification:
   H. OSC: $33.75^{+0.4}_{-0}$ kHz

10. Advance to the item No. 201 and set the value of the AGING MODE to "0".
11. Write the data.

Note: If an image on display is doubled or top of an image is bent to the left when the external DC power supply is removed, increment data by +1 or +2 and write the data.

Ⅳ. Focus Adjustment

Connect the input signal to LINE A connector.

1. Input the 625 monoscope signal.
2. Adjust the controls of the FBT (fly-back transformer) T3003 FOCUS1, FOCUS2 until an optimum focused image is obtained on entire display.

Ⅴ. Deflection System Adjustment

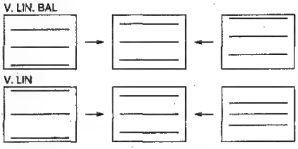
Connect the input signal to LINE A connector.

1. Deflection System Check

1. Input the 625 monoscope signal.
2. Enter the Service Mode .
3. Try to adjust item No. 12 to 26 respectively and check the result on display. (Never write the data after adjustment.)
4. Select the underscan mode (referred to as U/S hereafter).
5. Try to adjust item No. 27 to 33 respectively and check the result on display. (Never write the data after adjustment.)
6. Select the 16 : 9 normal scan mode (referred to as N/S hereafter).
7. Try to adjust item No. 34 to 38 respectively and check the result on display. (Never write the data after adjustment.)
8. Select the 16 : 9 U/S.
9. Try to adjust item No. 39 to 43 respectively and check the result on display. (Never write the data after adjustment.)
10. Select the 4 : 3 N/S.
11. Read the data.

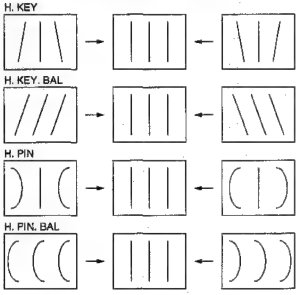
2. Vertical Deflection Rough Adjustment

1. Input the 625 monoscope signal.
2. Set the CONT and BRT controls to the center click positions.
3. Enter the Service Mode (item No. 19).
4. Adjust
   PAL 4 : 3 N/S V. SIZE
   until the vertical picture size is 11 divisions.
5. Select then item No. 22 ~ 23.
   Adjust
   PAL 4 : 3 N/S V. LIN. BAL
   PAL 4 : 3 N/S V. LIN. LIN
   to adjust roughly the vertical linearity.
6. If vertical size becomes other than 11 divisions, select item No. 19 again and adjust
   PAL 4 : 3 N/S V. SIZE
   until the vertical picture size is 11 divisions.
7. Write the data.



3. Horizontal Deflection Rough Adjustment

1. Input the 625 monoscope signal.
2. Set the CONT and BRT controls to the center click positions.
3. Enter the Service Mode (item No. 12).
4. Adjust
   PAL 4 : 3 N/S H. SIZE
   until the horizontal picture size is 15 divisions.
5. Select then item No. 15 ~ 18.
   Adjust
   PAL 4 : 3 N/S H. KEY
   PAL 4 : 3 N/S H. KEY BAL
   PAL 4 : 3 N/S H. PIN
   PAL 4 : 3 N/S H. PIN BAL
   to adjust roughly the horizontal deflection system.
6. If horizontal size becomes other than 11 divisions, select item No. 12 again and adjust
   PAL 4 : 3 N/S H. SIZE
   until the horizontal picture size is 15 divisions.
7. Write the data.



VI. Signal System Adjustment

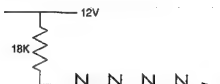
1. Crystal Oscillator Adjustment

Note: This adjustment can be performed until the altanative specification that color swinging is stopped.

(A) Crystal 443

1. Input the PAL color bar signal.
2. Connect a frequency counter to TP19 FO.
3. Enter the Service Mode (item No. 129).
4. Fabricate the circuit shown below and connect the circuit to IC13 pin-1.
5. Adjust PAL CRYSTAL until the frequency counter reading fulfils the following specification.
6. Write the data.

• CRYSTAL 443
Specification: 4.433619±20Hz



(When connecting the four diodes to pin-1, place the four diodes as close to pin-1 as possible, and make the wirings short.)

(B) Crystal 358

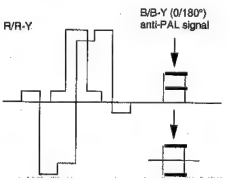
1. Input the NTSC color bar signal.
2. Connect a frequency counter to TP19 FO.
3. Enter the Service Mode (item No. 146).
4. Fabricate the circuit shown above and connect the circuit to IC13 pin-1.
5. Adjust NTSC CRYSTAL until the frequency counter reading fulfils the following specification.
6. Write the data.

• CRYSTAL 358
Specification: 3.579545±20Hz

2. PAL Color Decode Adjustment

(A) PAL HUE

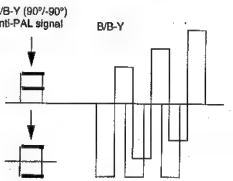
1. Input the PAL special (SP) color bar signal.
2. Connect an oscilloscope probe to TP16 R/R-Y.
3. Enter the Service Mode (item No. 131).
4. Adjust PAL HUE until the B-Y anti-PAL signal waveform becomes "0".
5. Write the data



* Because the signal differs every 1H period, adjust so that average value becomes "0".

(B) PAL U-PHASE

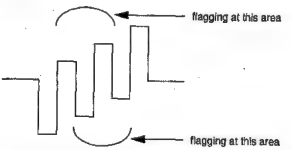
1. Input the PAL special (SP) color bar signal.
2. Connect an oscilloscope probe to TP15 B/B-Y.
3. Enter the Service Mode (item No. 132).
4. Adjust PAL U-PHASE until the R-Y anti-PAL signal waveform becomes "0".
5. Write the data



* Because the signal differs every 1H period, adjust so that average value becomes "0".

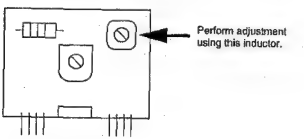
(C) PAL Line-Crawling Adjustment

1. Input the PAL SP color bar signal.
2. Connect an oscilloscope to TP15 B/B-Y.
3. Adjust the CP1 inductor until the flagging of the waveform as shown is minimized. Do not touch other adjustment control at this time.



(D) Tracking Adjustment Between Phase and Line-Crawling

After the item (C) is adjusted, check that the adjustment value of items (A) and (B) have not changed. If they have changed, repeat steps (A), (B) and (C).

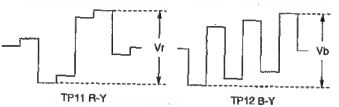


3. PAL Color Level Adjustment

Connect the input signal to the LINE A connector.

(A) PAL Color

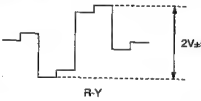
1. Input the PAL 100% color bar signal.
2. Observe TP11 R-Y and TP12 B-Y using an oscilloscope to find out which has the signal of smaller amplitude.
3. Enter the service mode (item No. 130)
4. Adjust the PAL COLOR until the signal having the smaller amplitude will have 1V±100mV amplitude.
5. Write the data.



Make adjustment to obtain min (Vr. Vb) = 1V±100mV

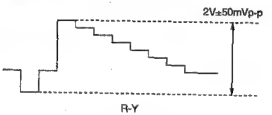
(B) PAL R-Y. DA1

1. Input the PAL 100% color bar signal.
2. Connect an oscilloscope to TP16 R/R-Y.
3. Enter the service mode (item No. 133)
4. Adjust the PAL R-Y. DA1 until the signal has amplitude of 2V±50mVp-p.
5. Write the data.



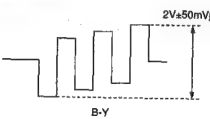
(C) PAL Y. DA1

1. Input the PAL 100% color bar signal.
2. Connect an oscilloscope to TP14 G/Y.
3. Enter the service mode (item No. 134)
4. Adjust the PAL Y. DA1 until the signal has amplitude of 2V±50mVp-p.
5. Write the data.



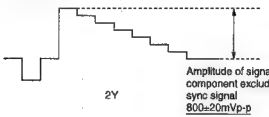
(D) PAL B-Y.DA1

1. Input the PAL 100 % color bar signal.
2. Connect an oscilloscope to TP15 B/B-Y.
3. Enter the service mode (item No. 135)
4. Adjust the PAL B-Y. DA1 until the signal has amplitude of 2V±50mVp-p.
5. Write the data.



(E) PAL Y. DA2

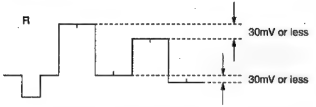
1. Input the PAL 100% color bar signal.
2. Connect an oscilloscope to TP1005 2Y.
3. Enter the service mode (item No. 137)
4. Adjust the PAL Y. DA2 until the signal has amplitude of 800±20mVp-p.
5. Write the data.



4. Matrix Adjustment

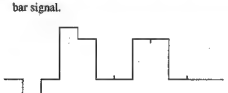
(A) R-In

1. Input the PAL 100% color bar signal.
2. Connect an oscilloscope to TP1010 R_IN.
3. Enter the service mode (item No. 139)
4. Adjust the PAL MDA1 until peaks of the signals have the same amplitude.
5. Write the data.



Note 1: If the required specification cannot be satisfied at the upper and lower sides of the waveform at the same time, adjust so that the upper side satisfies the requirement.

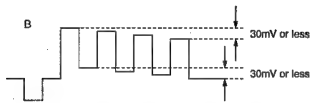
Note 2: If the waveform shown below appears with the 100% color bar input signal, change input to the 75% color bar signal.



(B) B-In

1. Input the PAL 100% color bar signal.
2. Connect an oscilloscope to TP1012 B_IN.
3. Enter the service mode (item No. 140)
4. Adjust the PAL MDA2 until peaks of the signals have the same amplitude.

5) Write the data.

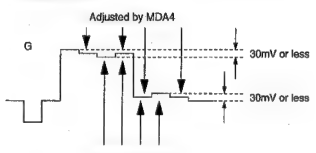


Note 1: If the required specification cannot be satisfied at the upper and lower sides of the waveform at the same time, adjust so that the upper side satisfies the requirement.

Note 2: If the waveform shown below appears with the 100% color bar input signal, change input to the 75% color bar signal.

(C) G-In

1. Input the PAL 100% color bar signal.
2. Connect an oscilloscope to TP1011 G_IN.
3. Enter the service mode (item No. 141 and No. 142)
4. Adjust the PAL MDA3 and PAL MDA4 until peaks of the signals have the same amplitude.
5. Write the data.



Note 1: If the required specification cannot be satisfied at the upper and lower sides of the waveform at the same time, adjust so that the upper side satisfies the requirement.

Note 2: If the waveform shown below appears with the 100% color bar input signal, change input to the 75% color bar signal.

5. PAL Y/C Color Level Adjustment

Connect the input signal to the LINE B connector.

(A) PAL Y/C R-Y. DA1

1. Input the PAL 100% color bar signal.
2. Perform the same adjustment as section VI-3-(B) using item No. 143
   PAL Y/C R-Y. DA1
3. Write the data.

(B) PAL Y/C Y. DA1

1. Input the PAL 100% color bar signal.
2. Perform the same adjustment as section VI-3-(C) using item No. 144
   PAL Y/C Y. DA1
3. Write the data.

(C) PAL Y/C B-Y. DA1

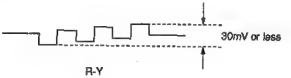
1. Input the PAL 100% color bar signal.
2. Perform the same adjustment as section VI-3-(D) using item No. 145
   PAL Y/C B-Y. DA1
3. Write the data.

6. NTSC Color Demodulation Adjustment

Connect the input signal to the LINE A connector.

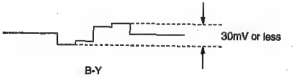
(A) NTSC HUE

1. Input the NTSC color bar signal.
   (Input the B-Y component only. Turn off the R-Y and Y.)
2. Connect an oscilloscope to TP16 R/R-Y.
3. Enter the service mode (item No. 148)
4. Adjust NTSC HUE until the error component (B-Y) becomes a straight line.
5. Write the data.



(B) NTSC U-phase

1. Input the NTSC color bar signal.
   (Input the R-Y component only. Turn off the B-Y and Y.)
2. Connect an oscilloscope to TP15 B/B-Y.
3. Enter the service mode (item No. 149)
4. Adjust NTSC U-PHASE until the error component (R-Y) becomes a straight line.
5. Write the data.



(C) Repeat adjustments of steps (A) and (B) of previous subsection 6 until both of the two adjustments (A) and (B) have the best result (tracking adjustment).

7. NTSC Color Level Adjustment

Connect the input signal to the LINE A connector.

(A) NTSC COLOR

1. Input the NTSC 100% color bar signal.
2. Perform the same adjustment as section VI-3-(A) using item No. 147
   NTSC COLOR
3. Write the data.

(B) NTSC R-Y. DA1

1. Input the NTSC 100% color bar signal.
2. Perform the same adjustment as section VI-3-(B) using item No. 150
   NTSC R-Y. DA1
3. Write the data.

(C) NTSC Y. DA1

1. Input the NTSC 100% color bar signal.
2. Perform the same adjustment as section VI-3-(C) using item No. 151
   NTSC Y. DA1
3. Write the data.

(D) NTSC B-Y. DA1

1. Input the NTSC 100% color bar signal.
2. Perform the same adjustment as section VI-3-(D) using item No. 152
   NTSC B-Y. DA1
3. Write the data.

8. NTSC Y/C Color Level Adjustment

Connect the input signal to the LINE B connector.

(A) NTSC Y/C R-Y. DA1

1. Input the NTSC 100% color bar signal.
2. Perform the same adjustment as section VI-3-(B) using item No. 153
   NTSC Y/C R-Y. DA1
3. Write the data.

(B) NTSC Y/C Y. DA1

1. Input the NTSC 100% color bar signal.
2. Perform the same adjustment as section VI-3-(C) using item No. 154
   NTSC Y/C Y. DA1
3. Write the data.

(C) NTSC Y/C B-Y. DA1

1. Input the NTSC 100% color bar signal.
2. Perform the same adjustment as section VI-3-(D) using item No. 155
   NTSC Y/C B-Y. DA1
3. Write the data.

9. Component Color Level Adjustment-1 (N10/SMPTE)

Connect the input signal to the RGB A or RGB B connector.

(A) Component N10 R-Y. DA1

1. Input the component (N10/SMPTE level) 100% color bar signal.
2. Perform the same adjustment as section VI-3-(B) using item No. 156
   COMP N10 R-Y. DA1
3. Write the data.

(B) Component N10 Y. DA1

1. Input the component (N10/SMPTE level) 100% color bar signal.
2. Perform the same adjustment as section VI-3-(C) using item No. 157
   COMP N10 Y. DA1
3. Write the data.

(C) Component N10 B-Y. DA1

1. Input the component (N10/SMPTE level) 100% color bar signal.
2. Perform the same adjustment as section VI-3-(D) using item No. 158
   COMP N10 B-Y. DA1
3. Write the data.

10. Component Color Level Adjustment-2 (Betacam)

Connect the input signal to the RGB A or RGB B connector.

(A) Component Betacam R-Y. DA1

1. Input the component (Betacam level) 100% color bar signal.
2. Perform the same adjustment as section VI-3-(B) using item No. 159
   COMP BETA R-Y. DA1
3. Write the data.

(B) Component Betacam B-Y. DA1

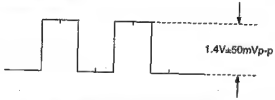
1. Input the component (Betacam level) 100% color bar signal.
2. Perform the same adjustment as section VI-3-(D) using item No. 160
   COMP BETA B-Y. DA1
3. Write the data.

11. RGB Color Level Adjustment

Connect the input signal to the RGB A or RGB B connector.

(A) RGB R-Y. DA1

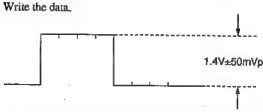
1. Input the RGB 100% color bar signal.
2. Connect an oscilloscope to TP16 R/R-Y.
3. Enter the service mode (item No. 161)
4. Adjust RGB R-Y. DA1 until amplitude of the waveform is 1.4V±50mVp-p.
5. Write the data.



Note: If sync is added to the signal, amplitude can be adjusted for 2V±50mVp-p including sync.

(B) RGB Y. DA1

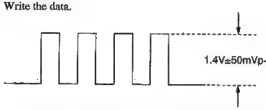
1. Input the RGB 100% color bar signal.
2. Connect an oscilloscope to TP14 G/Y.
3. Enter the service mode (item No. 162)
4. Adjust RGB Y. DA1 until amplitude of the waveform is 1.4V±50mVp-p.
5. Write the data.



Note: If sync is added to the signal, amplitude can be adjusted for 2 V ±50 mV p-p including sync.

(C) RGB B-Y. DA1

1. Input the RGB 100% color bar signal.
2. Connect an oscilloscope to TP15 B/B-Y.
3. Enter the service mode (item No. 163)
4. Adjust RGB B-Y. DA1 until amplitude of the waveform is 1.4V±50mVp-p.
5. Write the data.



Note: If sync is added to the signal, amplitude can be adjusted for 2V±50mVp-p including sync.

12. HD Component Matrix Adjustment

Connect the input signal to the RGB A or RGB B connector.

(A) 2 Component Y. DA2

1. Input the HD (BTA S-001: Japanese Hi-Vision signal) 100% color bar signal.
2. Perform the same adjustment as section Ⅵ-3-(E) using item No. 164
   2 COMP Y. DA2
3. Write the data.

(B) Component HD MDA1

1. Input the HD (BTA S-001: Japanese Hi-Vision signal) 100% color bar signal.
2. Perform the same adjustment as section Ⅵ-4-(A) using item No. 167
   COMP HD MDA1
3. Write the data.

(C) Component HD MDA2

1. Input the HD (BTA S-001: Japanese Hi-Vision signal) 100% color bar signal.
2. Perform the same adjustment as section Ⅵ-4-(B) using item No. 168
   COMP HD MDA2
3. Write the data.

(D) Component HD MDA3, MDA4

1. Input the HD (BTA S-001: Japanese Hi-Vision signal) 100% color bar signal.
2. Perform the same adjustment as section Ⅵ-4-(C) using item No. 169
   item No. 170
   COMP HD MDA3
   COMP HD MDA4
3. Write the data.

(E) 2 Component MDA1

1. Input the double-speed component 100% color bar signal.
2. Perform the same adjustment as section Ⅵ-4-(A) using item No. 165
   2 COMP MDA1
3. Write the data.

(F) 2 Component MDA2

1. Input the double-speed component 100% color bar signal.
2. Perform the same adjustment as section Ⅵ-4-(B) using item No. 166
   2 COMP MDA2
3. Write the data.

5-2. G BOARD ADJUSTMENT

1. Checking the respective output lines

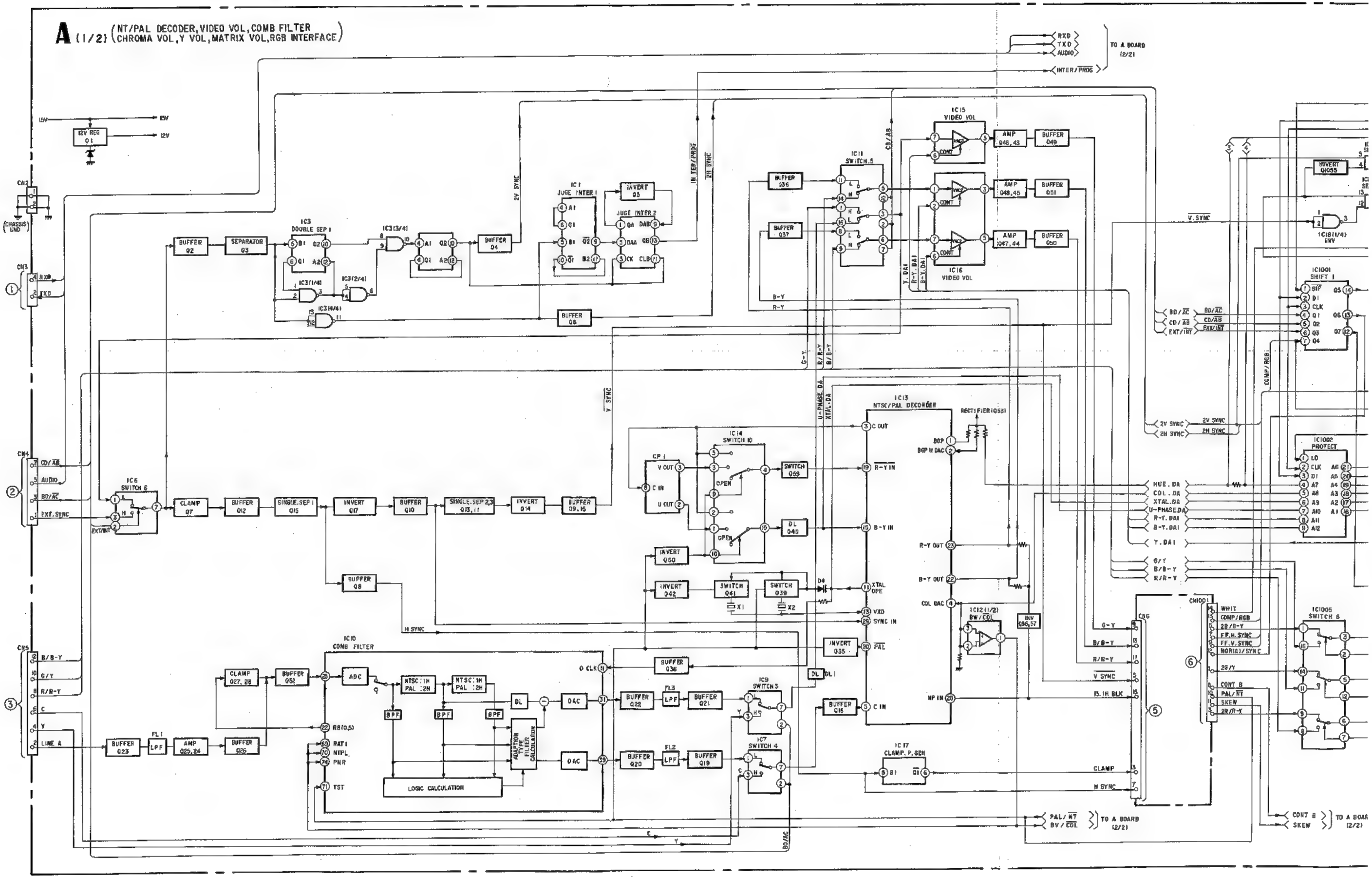
1. Confirm that the following output lines satisfy the specifications described below.

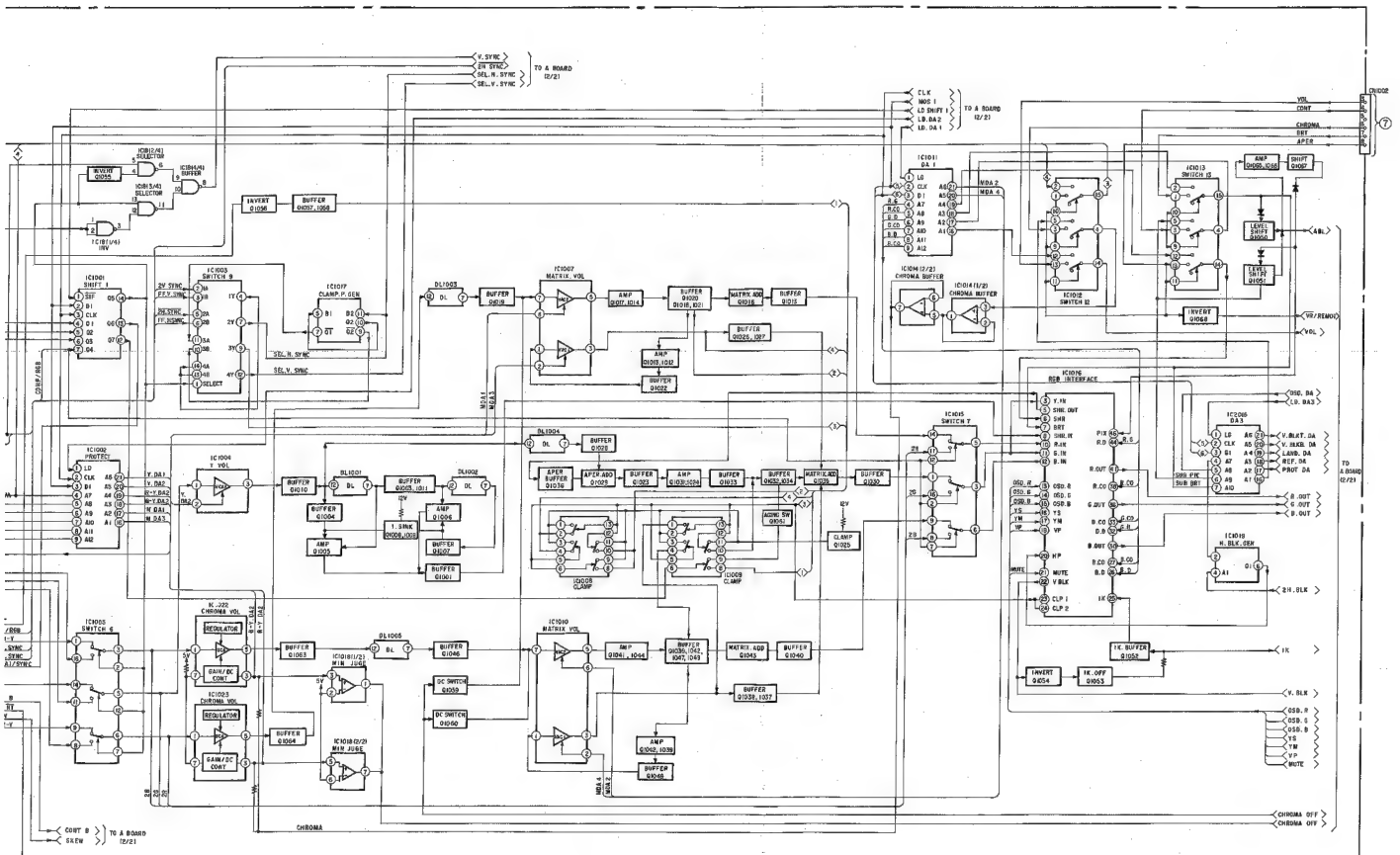
160V	16.2±5V
15V	15.5±0.8V
5V (A)	6±0.4V
5V (B)	5±0.4V
–15V	–14.5±0.6V

MEMO

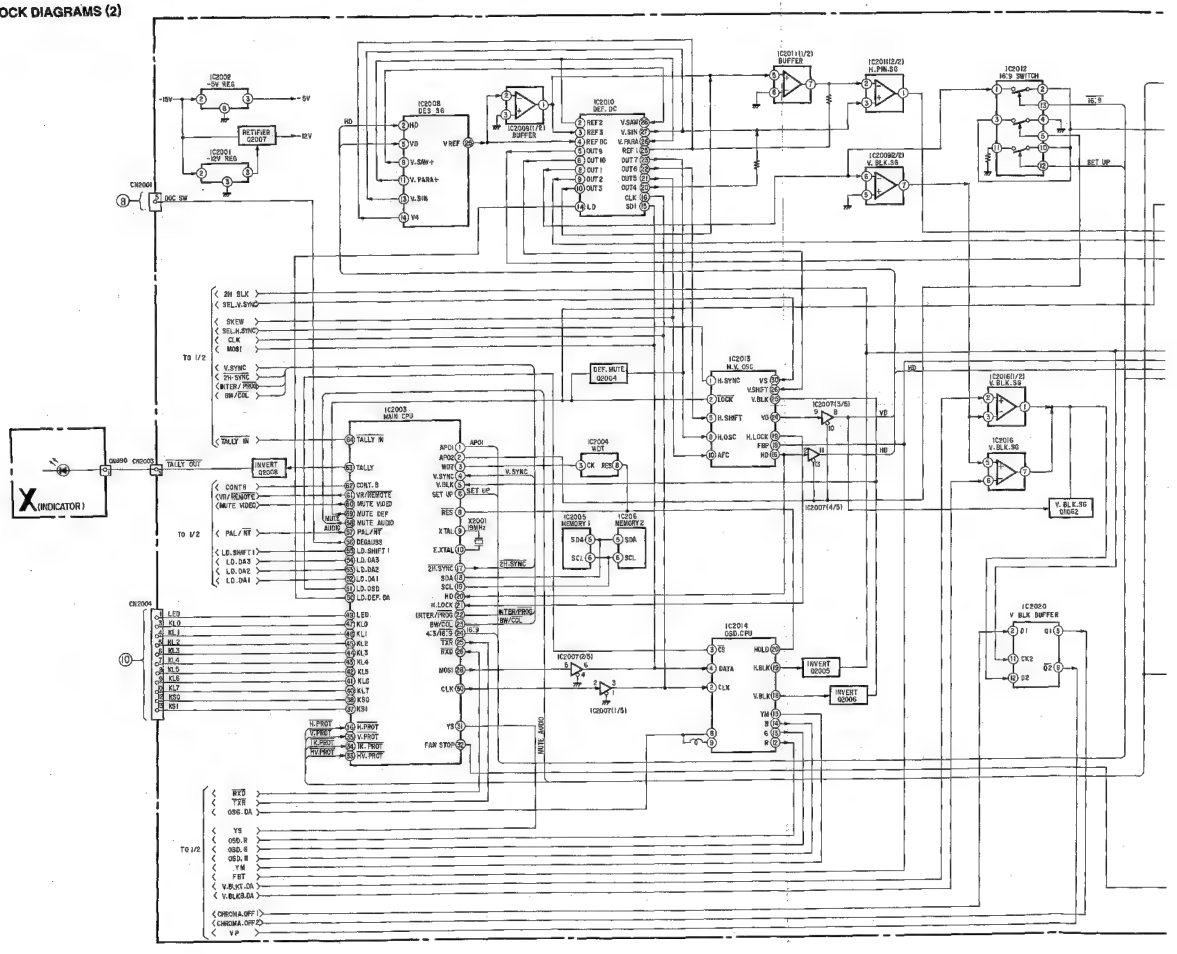
SECTION 6
DIAGRAMS

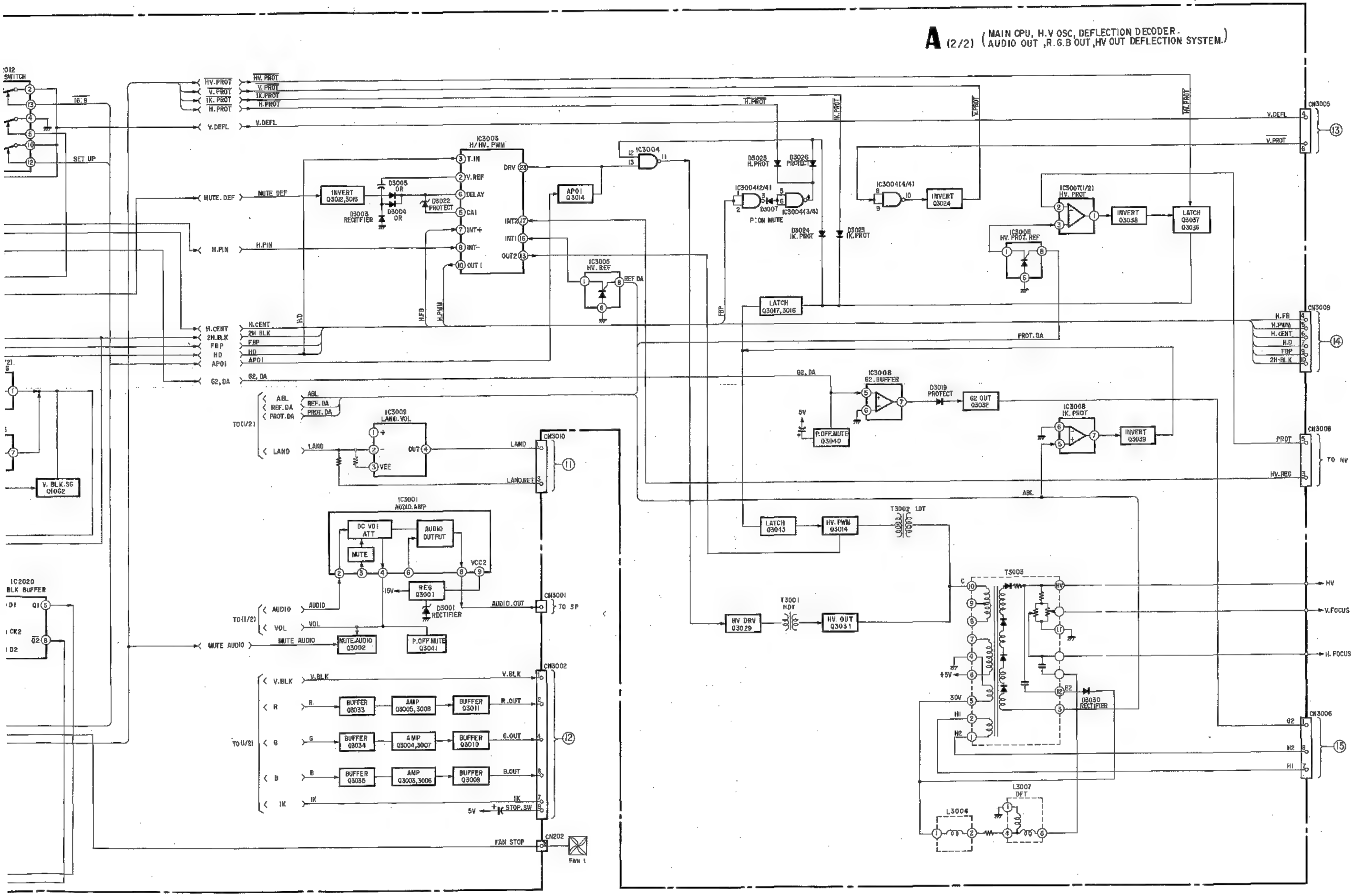
6-1. BLOCK DIAGRAMS (1)



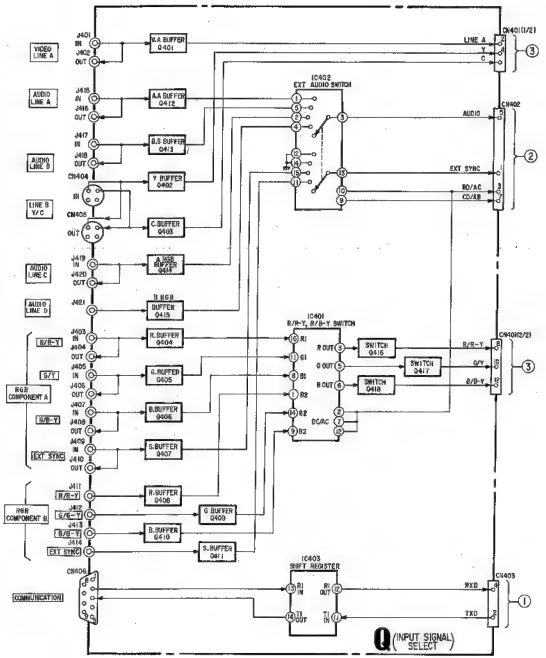


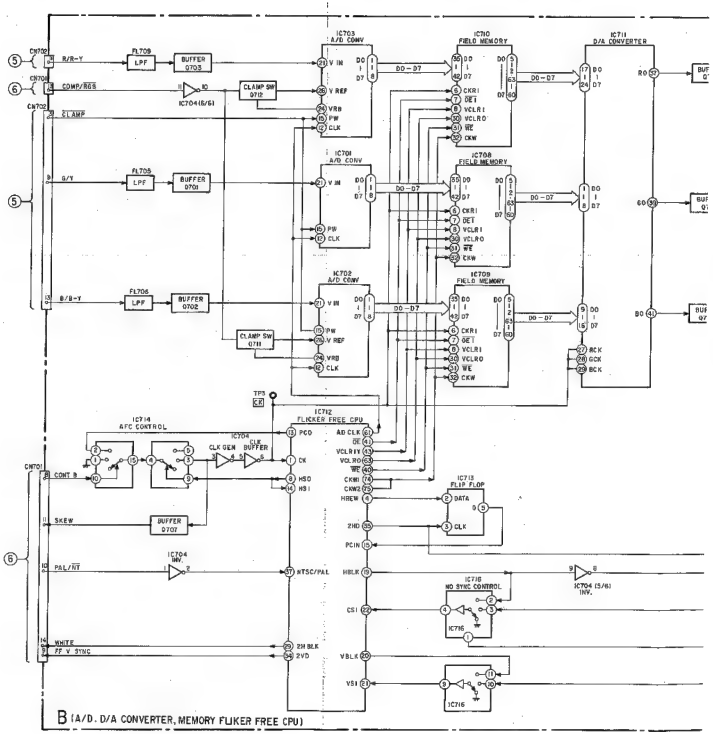
BLOCK DIAGRAMS (2)

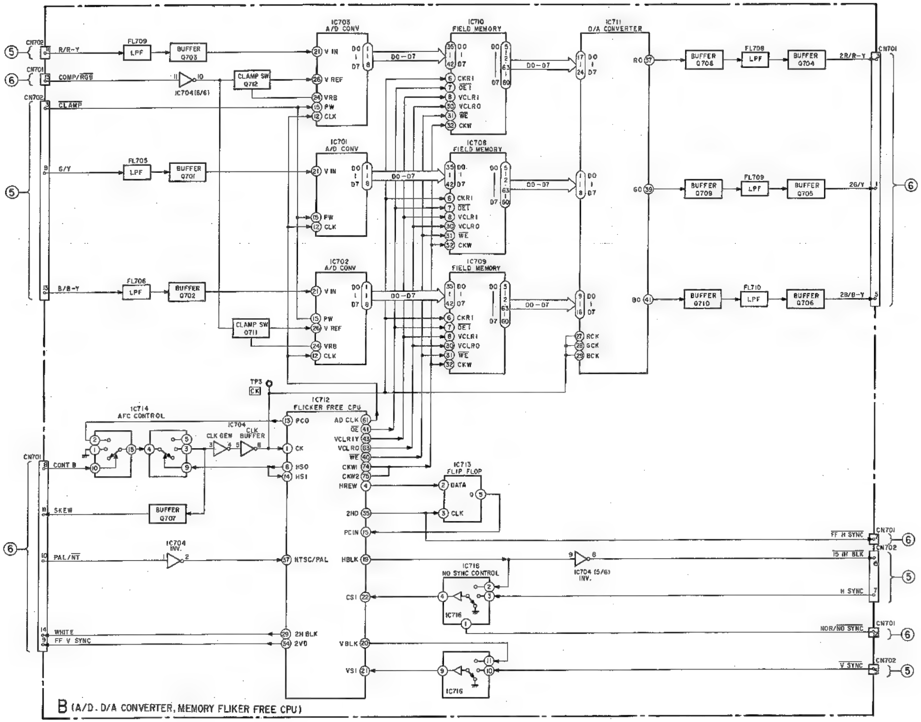



A (2/2) (MAIN CPU, H.V OSC, DEFLECTION DECODER. AUDIO OUT, R.G.B OUT, HV OUT DEFLECTION SYSTEM.)
IC3003 H/HV. PWM
IC3004
IC3005 HV. REF
IC3006 HV. PROT. REF
IC3007(1/2) HV. PROT
IC3008 G2. BUFFER
IC3008 IK. PROT
IC3009 LAND. VOL
IC3001 AUDIO. AMP
IC2020 BLK BUFFER
INVERT Q3012, 3013
APO1 Q3014
INVERT Q3024
INVERT Q3038
LATCH Q3037 Q3036
LATCH Q3017, 3016
G2 OUT Q3032
P.OFF MUTE Q3040
INVERT Q3039
LATCH Q3043
HV. PWM Q3014
HV DRV Q3029
HV. OUT Q3031
T3002 LDT
T3001 HDT
T3003
REG Q3001
MUTE AUDIO Q3002
P.OFF MUTE Q3041
V. BLK. SG Q1062
BUFFER Q3033
AMP Q3005, 3008
BUFFER Q3011
BUFFER Q3034
AMP Q3004, 3007
BUFFER Q3010
BUFFER Q3035
AMP Q3003, 3006
BUFFER Q3009
D3003 RECTIFIER
D3005 OR
D3004 OR
D3022 PROTECT
D3001 RECTIFIER
D3019 PROTECT
D3030 RECTIFIER
L3004
L3007 DFT
CN3005
CN3009
CN3008
CN3006
CN3010
CN3001
CN3002
CN202
FAN 1
TO SP
TO HV
HV
V. FOCUS
H. FOCUS
TO (1/2)

BLOCK DIAGRAMS (3)



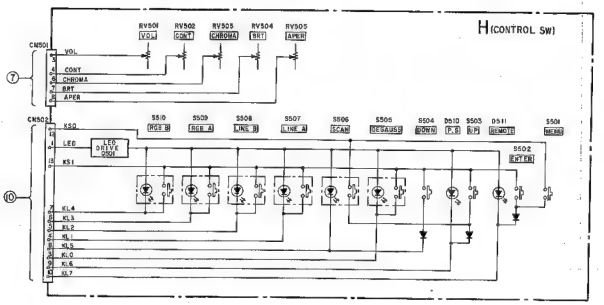


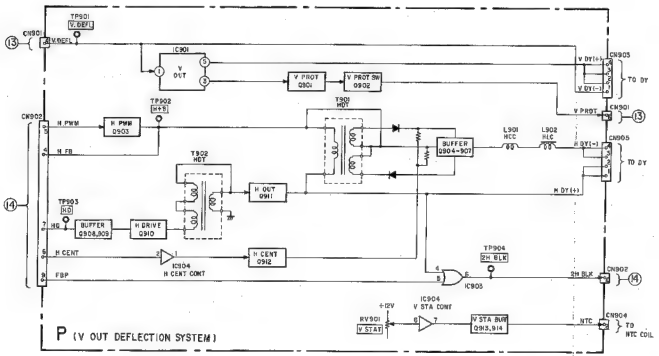


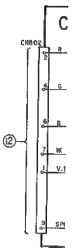
B (A/D. D/A CONVERTER, MEMORY FLIKER FREE CPU)

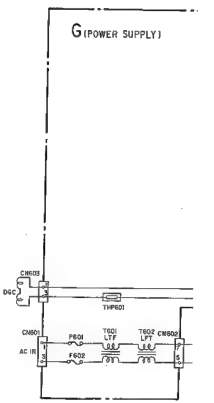
VIDE-V15008 / DRUCK6

BLOCK DIAGRAMS (4)

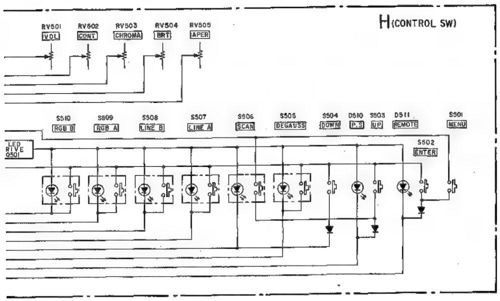


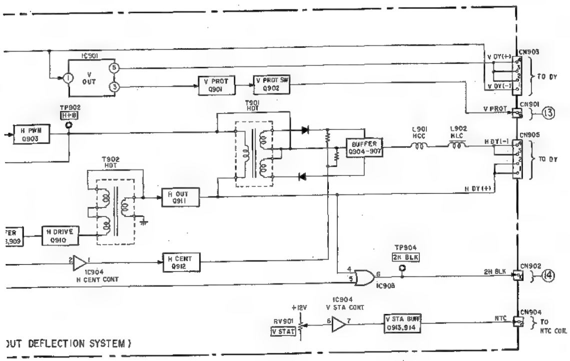


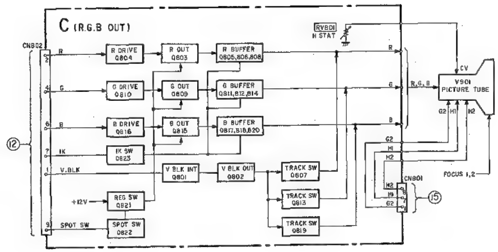


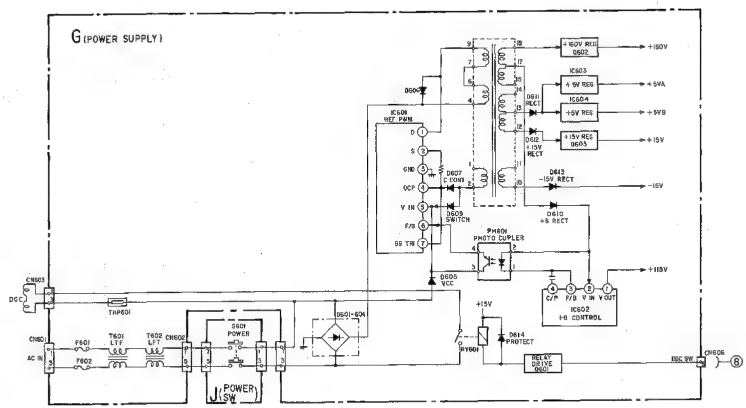


MS (4)



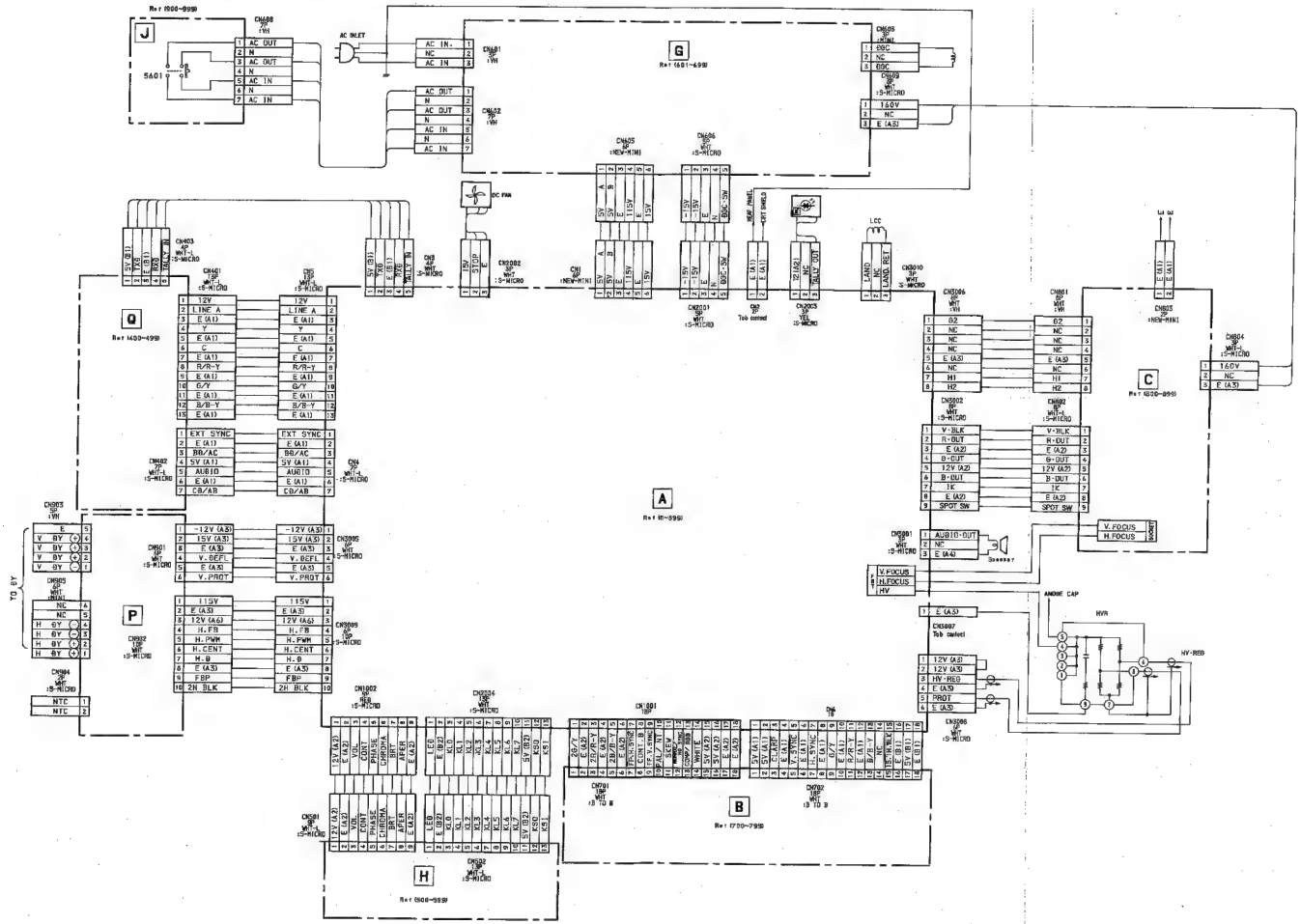


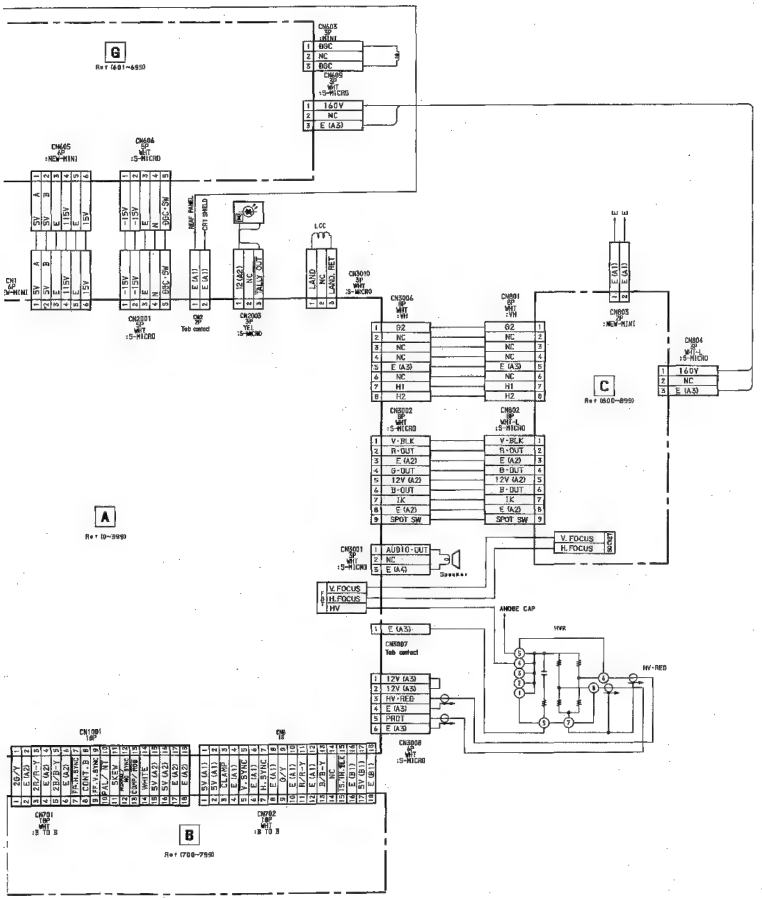




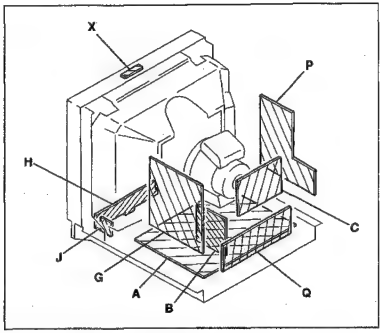
VIDE-V15008 / DRUCK8

6-2. FRAME SCHEMATIC DIAGRAM





6-3. CIRCUIT BOARDS LOCATION



6-4. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics.
- All electrolytics are in 50V unless otherwise specified.
- All resistors are in ohms, 1/4W in resistance, 1/10W in chip resistance.
  kΩ=1000Ω, MΩ=1000kΩ
- : nonflammable resistor.
- : fusible resistor.
- : internal component.
- : panel designation and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

- All voltage are in V.
- Voltage are dc with respect to ground unless otherwise noted.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerances.
- : B + bus.
- : B − bus.
- : Signal path.
- No mark : with PAL color-bar signal is received or common voltage.
- For the respective voltage ratings in NTSC 3.58, S-VIDEO and ANALOG RGB modes, see the table.

Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RW	NONFLAMMABLE WIREWOUND
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

Note: The component identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

A (1/4) BOARD

REF.	Pin No.	PAL	S-VIDEO	R.G.B
IC1	②	7.8	7.8	7.8
	④	4.8	4.9	4.6
	⑤	10.7	10.7	10.7
	⑥	4.8	4.9	4.6
	⑦	7.1	7.1	7.1
	⑧	8.9	8.9	8.9
	⑪	7.1	7.1	7.1
IC2	①	0	0	0
	③	0.2	0.2	0.4
	⑤	8.9	8.9	8.9
	⑥	0	0	0
	⑪	0.2	0.2	0.4
	⑬	0	0	0
IC3	②	7.7	7.7	7.2
	⑤	0.9	0.9	0.9
	⑥	4.8	4.8	5.4
	⑩	0.1	0.1	4.7
	⑫	11.8	11.8	11.1
	⑭	11.8	11.8	7.8
IC4	②	11.8	11.8	11.8
	④	11.9	11.9	11.9
	⑥	0.1	0.1	0.1
	⑩	0.2	0.2	0.4
	⑫	0.1	0.1	0.1
	⑭	11.7	11.7	11.5
IC5	①	4.8	4.8	5.4
	②	0.9	0.9	0.9
	③	11.8	11.8	11.1
	④	0.1	0.1	0.7
	⑤	11.8	11.8	11.1
	⑥	11.8	11.8	11.1
	⑦	0.1	0.1	4.7
	⑧	0.1	0.1	0.7
	⑨	11.9	11.9	11.9
	⑩	10.7	10.7	10.7
	⑫	0.9	0.9	0.9
	⑬	0.9	0.9	0.9
IC6	①	6.7	6.7	6.7
	②	0	0	4.8
	③	6.7	6.7	6.7
	⑦	6.0	6.0	6.0
IC7	①	6.6	6.6	—
	②	0	4.4	—
	③	5.3	5.3	—
	⑦	5.6	5.6	—
IC9	①	5.3	5.3	—
	②	0	4.4	—
	③	5.3	5.3	—
	⑦	5.6	5.6	—
IC10	⑭	2.4	2.4	2.4
	⑮	2.3	2.3	2.3
	⑯	2.3	2.3	2.3
	⑰	2.3	2.3	2.3
	㉒	0.5	0.5	0.5
	㉓	1.2	0.7	0.7
	㉗	2.6	2.6	2.6
	㉛	0.5	0.1	0.1
	㉜	3.6	3.6	3.6
	㉝	1.6	1.6	1.6
	㉞	1.6	1.6	1.6
	㉟	1.1	1.1	1.1
	㊱	0.6	0.6	0.6
	㊲	3.7	3.7	3.7
	㊳	1.2	1.2	1.2
	㊴	1.3	1.3	1.3
	㊵	4.8	0	0
	㊶	4.8	0	0
	㊷	0	0	4.2
	㊸	0	0	0

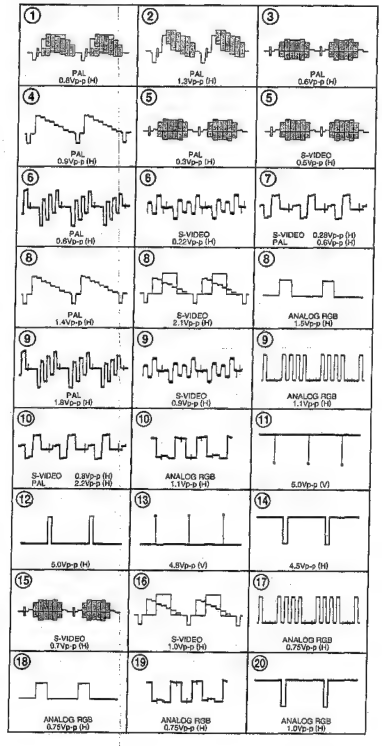
REF.	Pin No.	PAL	S-VIDEO	R.G.B
IC11	①	6.6	6.6	6.6
	②	0	0	4.6
	③	5.9	5.9	5.9
	④	5.9	5.9	5.9
	⑤	5.9	5.9	5.9
	⑦	0	0	4.6
	⑧	6.6	6.6	6.6
	⑨	6.6	6.6	6.5
	⑪	6.6	6.6	6.6
	⑫	0	0	0
	⑬	6.6	6.6	6.6
	⑭	6.6	6.6	6.0
	⑮	0	0	4.1
IC12	②	2.3	2.3	0.9
	③	2.0	1.8	2.0
IC13	①	2.9	2.9	2.9
	②	2.0	2.0	2.0
	③	2.4	2.4	2.4
	④	2.4	2.4	1.0
	⑤	3.0	3.0	3.0
	⑥	3.0	3.0	3.0
	⑦	4.3	4.3	4.8
	⑧	3.1	3.1	3.1
	⑨	3.0	3.0	3.0
	⑪	2.9	2.9	2.9
	⑫	2.6	2.6	2.6
	⑬	3.4	3.4	3.4
	⑭	3.1	3.1	3.1
	⑮	3.0	3.0	3.0
	⑯	0	1.6	1.6
	㉖	2.2	2.2	2.2
	㉗	2.2	2.2	2.2
	㉘	2.2	1.9	2.8
	㉙	2.8	2.8	2.8
	㉚	4.1	4.1	4.1
	㉛	3.0	3.0	3.0
	㉜	2.8	2.8	2.8
	㉝	1.0	1.0	1.0
IC14	①	2.4	2.4	2.4
	②	2.8	2.8	2.8
	③	2.4	2.4	2.4
	④	2.0	2.3	2.3
	⑤	2.0	2.0	2.0
	⑥	0	11.8	11.8
	⑩	0	11.8	11.8
IC15	②	0	0	2.0
	⑥	2.2	2.2	2.2
	⑨	2.6	3.1	2.0
	⑩	2.8	2.8	2.8
	⑪	2.8	2.8	3.2
IC16	①	4.4	3.5	0
	③	2.2	2.2	2.2
	⑥	2.2	2.2	2.2
	⑭	3.9	4.8	2.8
	⑦	2.8	2.8	2.8
IC17	②	4.9	4.9	4.9
	⑤	0.6	0.6	0.6
	⑦	4.9	4.9	4.9

A (1/4) BOARD

REF.		PAL	S-VIDEO	R.G.B
Q2	E	3.4	3.4	3.8
	C	—	—	—
	B	4.0	4.0	4.5
Q3	E	—	—	—
	C	0.9	0.9	0.9
	B	11.5	11.5	12.0
Q4	E	0.1	0.1	0.1
	C	—	—	—
	B	0.1	0.1	0.1
Q5	E	—	—	—
	C	0	0	0
	B	11.7	11.7	11.7
Q6	E	4.3	4.3	4.3
	C	—	—	—
	B	4.9	4.9	4.9
Q7	E	4.5	4.5	5.1
	C	—	—	—
	B	4.7	4.7	4.7
Q8	E	0.6	0.6	0.6
	C	—	—	—
	B	1.1	1.1	1.1
Q9	E	11.2	11.2	11.2
	C	—	—	—
	B	11.7	11.7	11.7
Q10	E	10.2	10.2	10.2
	C	—	—	—
	B	10.8	10.8	10.8
Q11	E	—	—	—
	C	0.2	0.2	0.2
	B	11.5	11.6	11.9
Q12	E	3.9	3.9	4.5
	C	—	—	—
	B	4.5	4.5	5.1
Q13	E	6.5	6.5	6.5
	C	—	—	—
	B	5.8	5.8	5.8
Q14	E	—	—	—
	C	11.8	11.8	11.8
	B	0	0	0
Q15	E	—	—	—
	C	1.6	1.6	1.5
	B	11.5	11.5	12.0
Q16	E	4.9	4.9	4.9
	C	—	—	—
	B	5.5	5.5	5.5
Q17	E	0.6	0.6	0.6
	C	10.6	10.6	10.8
	B	1.1	1.1	1.1
Q18	E	3.4	3.4	3.4
	C	—	—	—
	B	4.0	4.0	4.0
Q19	E	1.8	1.8	1.8
	C	—	—	—
	B	1.1	1.1	1.1
Q20	E	1.3	1.3	1.3
	C	—	—	—
	B	0.6	0.6	0.6
Q21	E	1.7	1.7	1.7
	C	—	—	—
	B	1.0	1.0	1.0
Q22	E	1.1	1.1	1.1
	C	—	—	—
	B	0.5	0.5	0.5
Q23	E	4.3	4.3	4.3
	C	—	—	—
	B	4.9	4.9	4.9
Q24	E	—	—	—
	C	5.1	5.1	5.1
	B	11.1	11.1	11.1
Q25	E	3.2	3.2	3.2
	C	11.2	11.2	11.2
	B	3.8	3.8	3.8

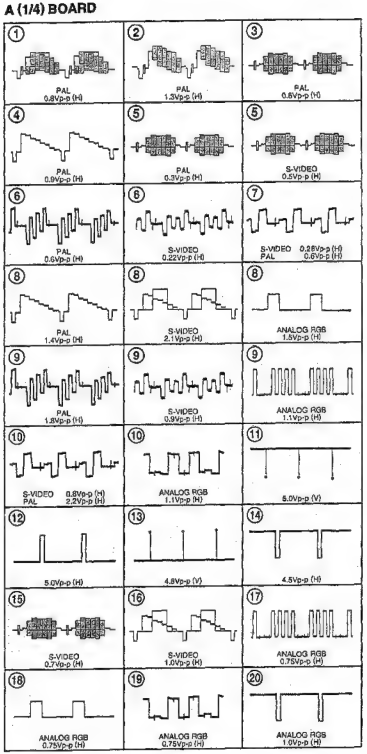
REF.		PAL	S-VIDEO	R.G.B
Q26	E	4.5	4.5	4.7
	C	—	—	—
	B	5.2	5.2	5.2
Q27	E	1.2	1.2	1.2
	C	—	—	—
	B	0.6	0.6	0.6
Q28	E	1.8	1.8	1.8
	C	—	—	—
	B	1.8	1.8	1.8
Q35	E	—	—	—
	C	0	1.5	1.5
	B	4.8	0	0
Q36	E	2.8	2.8	2.8
	C	—	—	—
	B	2.2	2.2	2.2
Q37	E	2.8	2.8	2.8
	C	—	—	—
	B	2.2	2.2	2.2
Q38	E	2.2	2.2	2.2
	C	—	—	—
	B	2.8	2.8	2.8
Q39	D	1.2	1.2	1.2
	G	2.7	0	0
	S	2.1	2.3	2.2
Q40	E	2.1	1.7	1.7
	C	9.7	10.2	10.2
	B	2.8	2.2	2.2
Q41	D	1.2	2.2	2.2
	G	0	2.9	2.9
	S	2.1	2.3	2.3
Q42	E	—	—	—
	C	0	4.5	4.5
	B	4.8	0	0
Q43	E	—	—	—
	C	3.1	3.1	3.1
	B	11.2	11.2	11.2
Q44	E	—	—	—
	C	3.5	3.5	3.5
	B	11.3	11.3	11.3
Q45	E	—	—	—
	C	3.5	3.5	3.5
	B	11.2	11.2	11.2
Q46	E	1.8	1.8	1.8
	C	11.2	11.2	11.2
	B	2.4	2.4	2.4
Q47	E	1.8	1.8	1.8
	C	11.2	11.2	11.2
	B	2.4	2.4	2.4
Q48	E	1.8	1.8	1.8
	C	11.2	11.2	11.2
	B	2.4	2.4	2.4
Q49	E	2.5	2.5	2.5
	C	—	—	—
	B	3.1	3.1	3.1
Q50	E	2.9	2.9	2.9
	C	—	—	—
	B	3.5	3.5	3.5
Q51	E	2.9	2.9	2.9
	C	—	—	—
	B	3.5	3.5	3.5
Q52	E	1.2	1.2	1.2
	C	—	—	—
	B	1.8	1.8	1.8
Q56	E	—	—	—
	C	0.7	0.7	0.7
	B	4.1	4.1	4.1
Q57	E	0.4	0.4	0.4
	C	—	—	—
	B	0.4	0.4	0.4

A (1/4) BOARD



	R.G.B	REF.		PAL	S-VIDEO	R.G.B
	3.8	Q26	E	4.5	4.5	4.7
	—		C	—	—	—
	4.5		B	5.2	5.2	5.2
	—	Q27	E	1.2	1.2	1.2
	0.9		C	—	—	—
	12.0		B	0.6	0.6	0.6
	0.1	Q28	E	1.8	1.8	1.8
	—		C	—	—	—
	0.1		B	1.8	1.8	1.8
	—	Q35	E	—	—	—
	0		C	0	1.5	1.5
	11.7		B	4.8	0	0
	4.3	Q36	E	2.8	2.8	2.8
	—		C	—	—	—
	4.9		B	2.2	2.2	2.2
	5.1	Q37	E	2.8	2.8	2.8
	—		C	—	—	—
	4.7		B	2.2	2.2	2.2
	0.6	Q38	E	2.2	2.2	2.2
	—		C	—	—	—
	1.1		B	2.8	2.8	2.8
	11.2	Q39	D	1.2	1.2	1.2
	—		G	2.7	0	0
	11.7		S	2.1	2.3	2.2
	10.2	Q40	E	2.1	1.7	1.7
	—		C	9.7	10.2	10.2
	10.8		B	2.6	2.2	2.2
	—	Q41	D	1.2	2.2	2.2
	0.2		G	0	2.9	2.9
	11.9		S	2.1	2.3	2.3
	4.5	Q42	E	—	—	—
	—		C	0	4.5	4.5
	5.1		B	4.8	0	0
	6.5	Q43	E	—	—	—
	—		C	3.1	3.1	3.1
	5.8		B	11.2	11.2	11.2
	—	Q44	E	—	—	—
	11.8		C	3.5	3.5	3.5
	0		B	11.3	11.3	11.3
	—	Q45	E	—	—	—
	1.5		C	3.5	3.5	3.5
	12.0		B	11.2	11.2	11.2
	4.9	Q46	E	1.8	1.8	1.8
	—		C	11.2	11.2	11.2
	5.5		B	2.4	2.4	2.4
	0.6	Q47	E	1.8	1.8	1.8
	10.8		C	11.2	11.2	11.2
	1.1		B	2.4	2.4	2.4
	3.4	Q48	E	1.8	1.8	1.8
	—		C	11.2	11.2	11.2
	4.0		B	2.4	2.4	2.4
	1.8	Q49	E	2.5	2.5	2.5
	—		C	—	—	—
	1.1	Q50	B	3.1	3.1	3.1
	1.3		E	2.9	2.9	2.9
	—		C	—	—	—
	0.6		B	3.5	3.5	3.5
	1.7	Q51	E	2.9	2.9	2.9
	—		C	—	—	—
	1.0		B	3.5	3.5	3.5
	1.1	Q52	E	1.2	1.2	1.2
	—		C	—	—	—
	0.5		B	1.8	1.8	1.8
	4.3	Q56	E	—	—	—
	—		C	0.7	0.7	0.7
	4.9		B	4.1	4.1	4.1
	—	Q57	E	0.4	0.4	0.4
	5.1		C	—	—	—
	11.1		B	0.4	0.4	0.4
	3.2					
	11.2					
	3.8					

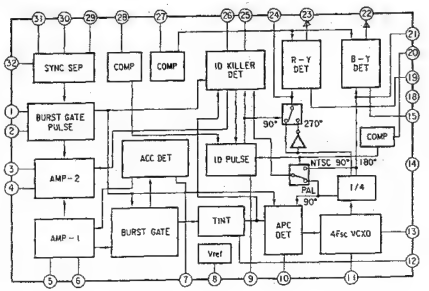
A (1/4) BOARD

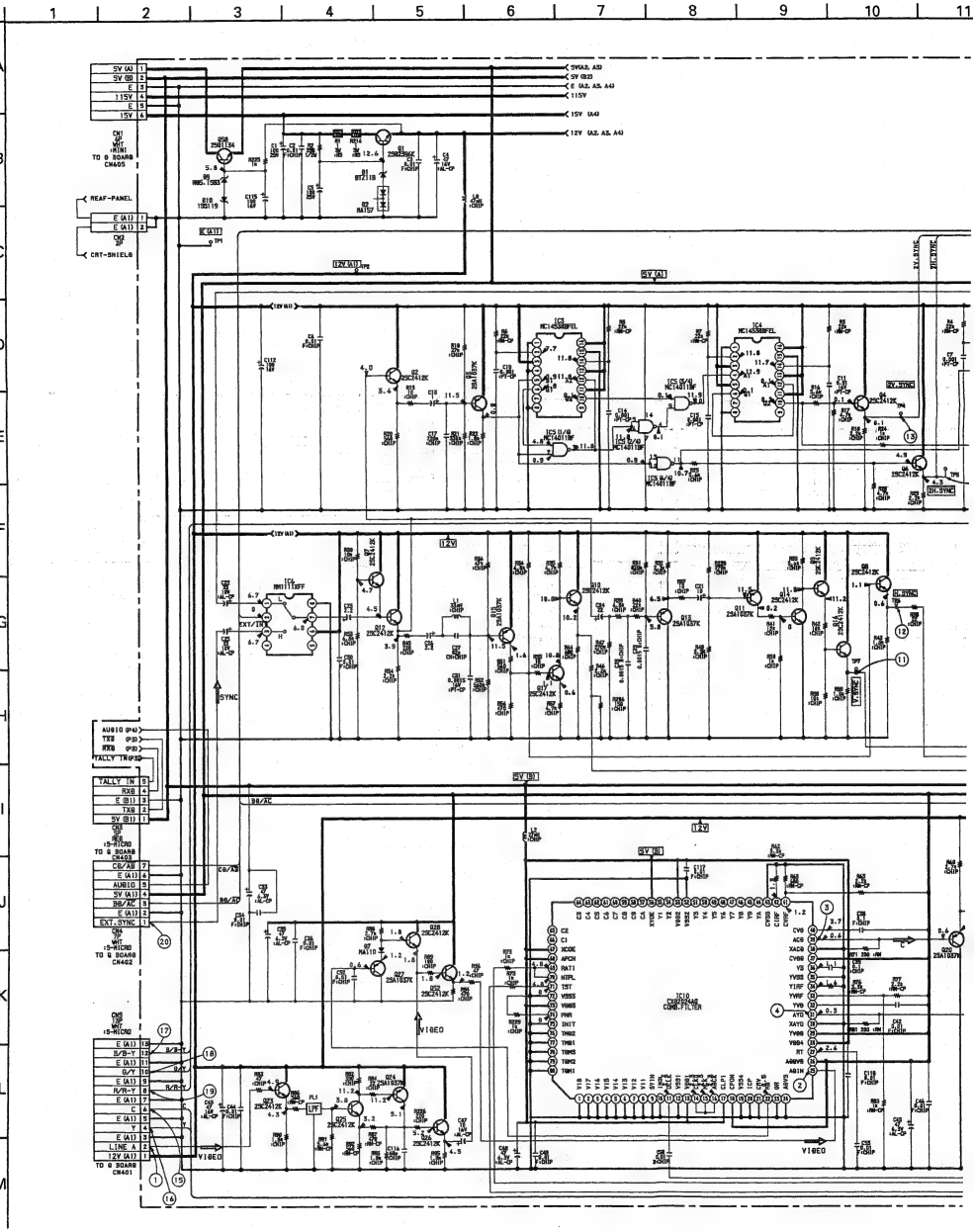


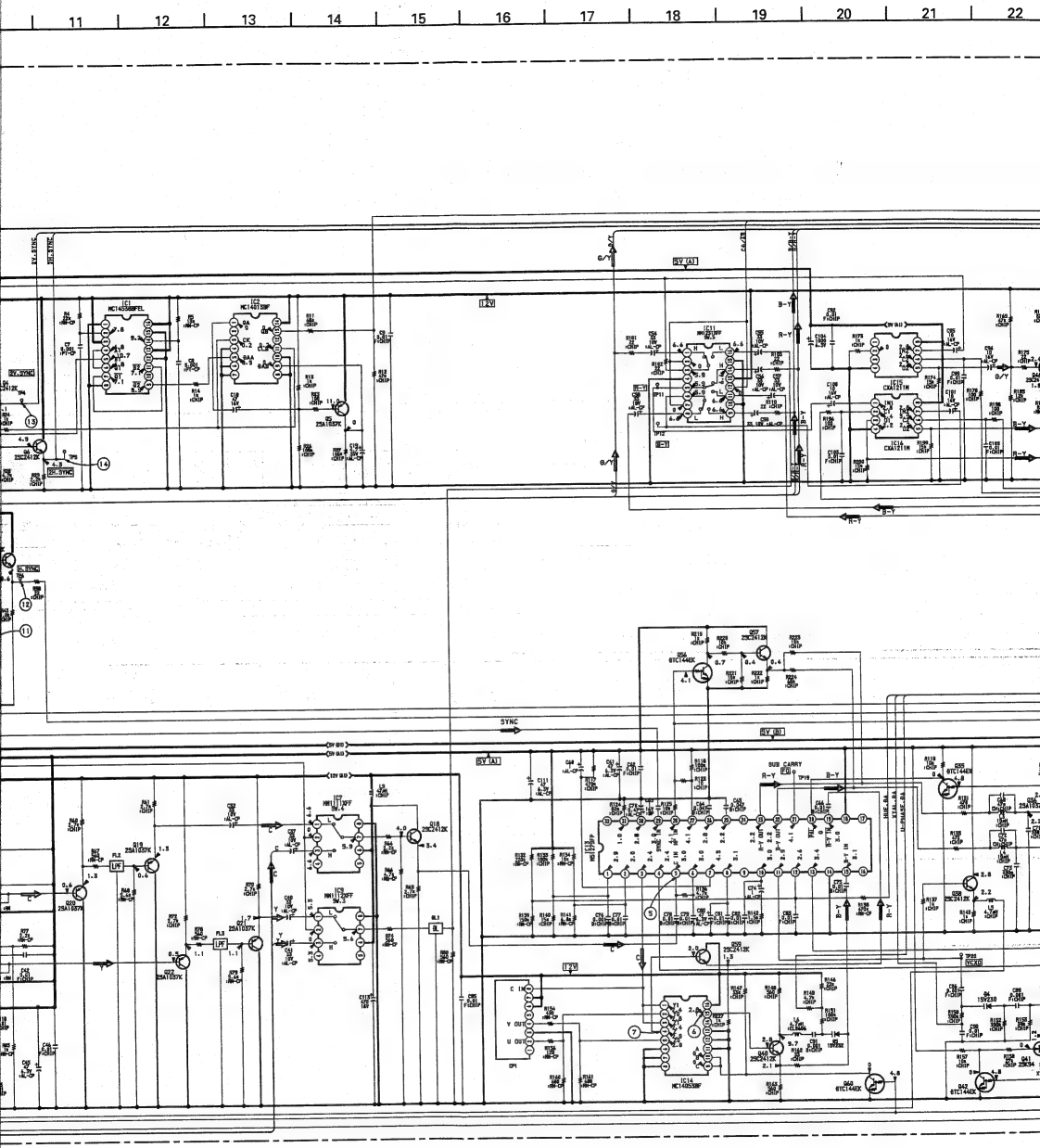
A (1/4) BOARD

IC1	JUDG INTER 1	Q22	BUFFER
IC2	JUDG INTER 2	Q23	BUFFER
IC3	DOUBLE SEP 1	Q24	AMP
IC4	DOUBLE SEP 2	Q25	AMP
IC5	INVERT	Q26	BUFFER
IC6	SW 2	Q27	BUFFER
IC7	SW 4	Q28	CLAMP
IC9	SW 3	Q35	INVERT
IC10	COMB FILTER	Q36	BUFFER
IC11	SW 5	Q37	BUFFER
IC12	BW/COL	Q38	BUFFER
IC13	NTSC, PAL DECODER	Q39	SW
IC14	SW 10	Q40	DELAY
IC15	VIDEO VOL	Q41	SW
IC16	VIDEO VOL	Q42	INVERT
IC17	CLAMP P GEN	Q43	AMP
		Q44	AMP
		Q45	AMP
Q1	+12V REG	Q46	AMP
Q2	BUFFER	Q47	AMP
Q3	SEPARATOR	Q48	AMP
Q4	BUFFER	Q49	BUFFER
Q5	INVERT	Q50	BUFFER
Q6	BUFFER	Q51	BUFFER
Q7	CLAMP	Q52	BUFFER
Q8	BUFFER	Q56	SW
Q9	BUFFER	Q57	BUFFER
Q10	BUFFER	Q58	+5V REG
Q11	SINGLE SEP 3	Q59	BUFFER
Q12	BUFFER		
Q13	SINGLE SEP 2		
Q14	INVERT	D1	PROTECT
Q15	SINGLE SEP 1	D2	PROTECT
Q16	BUFFER	D4	VARI C
Q17	INVERT	D5	
Q18	BUFFER	D7	ZENNER
Q19	BUFFER	D9	PROTECT
Q20	BUFFER	D10	PROTECT
Q21	BUFFER		

A (1/4) BOARD IC13 M51279FP



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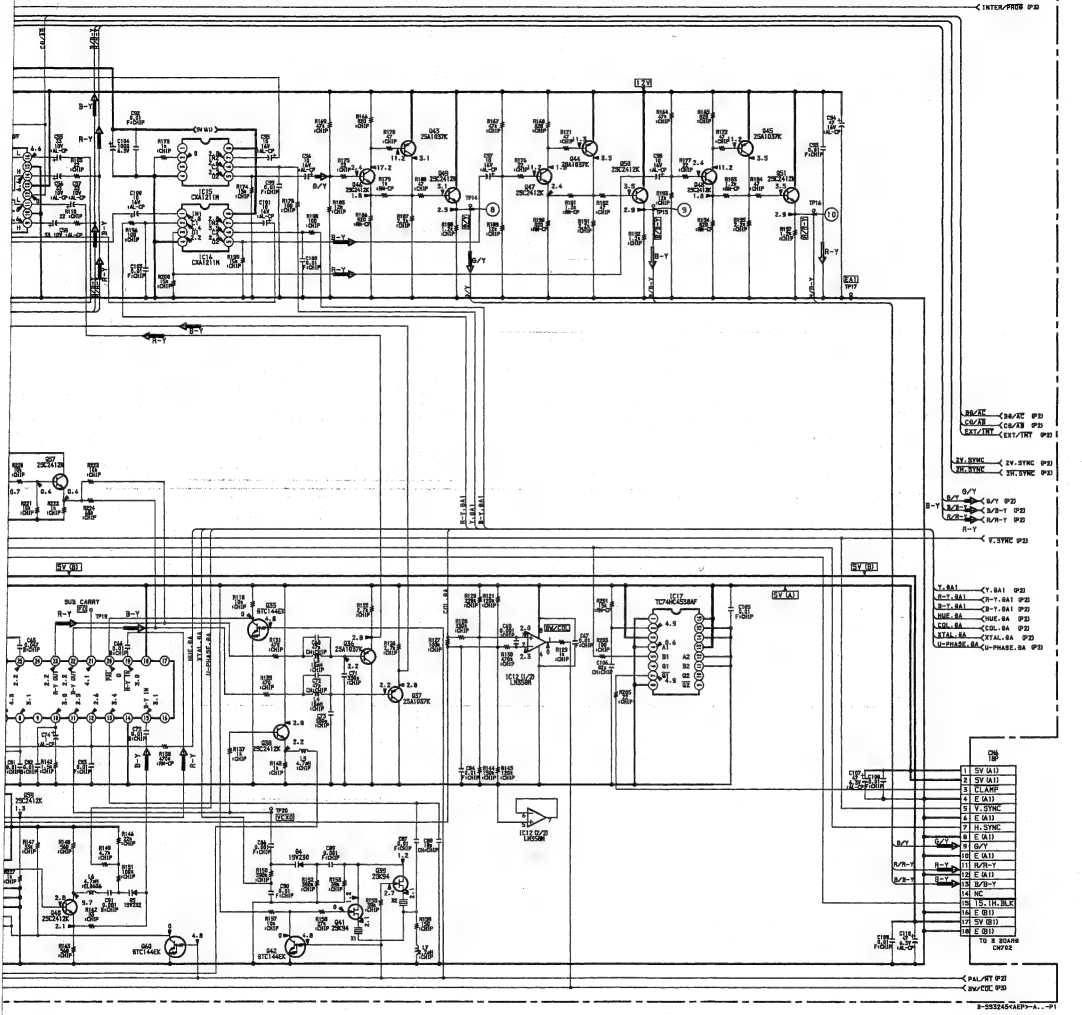
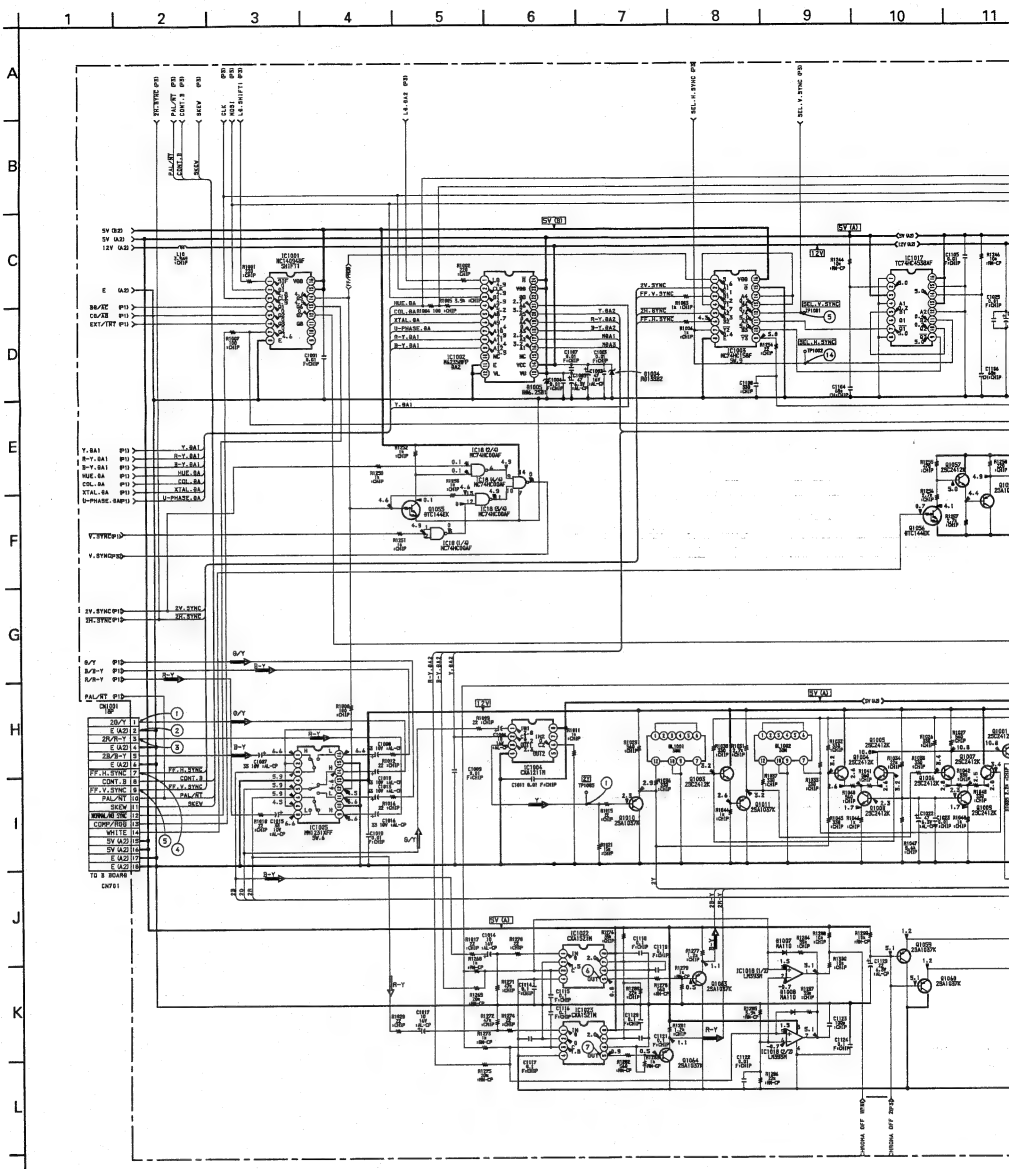
SYNC

A (1/4)

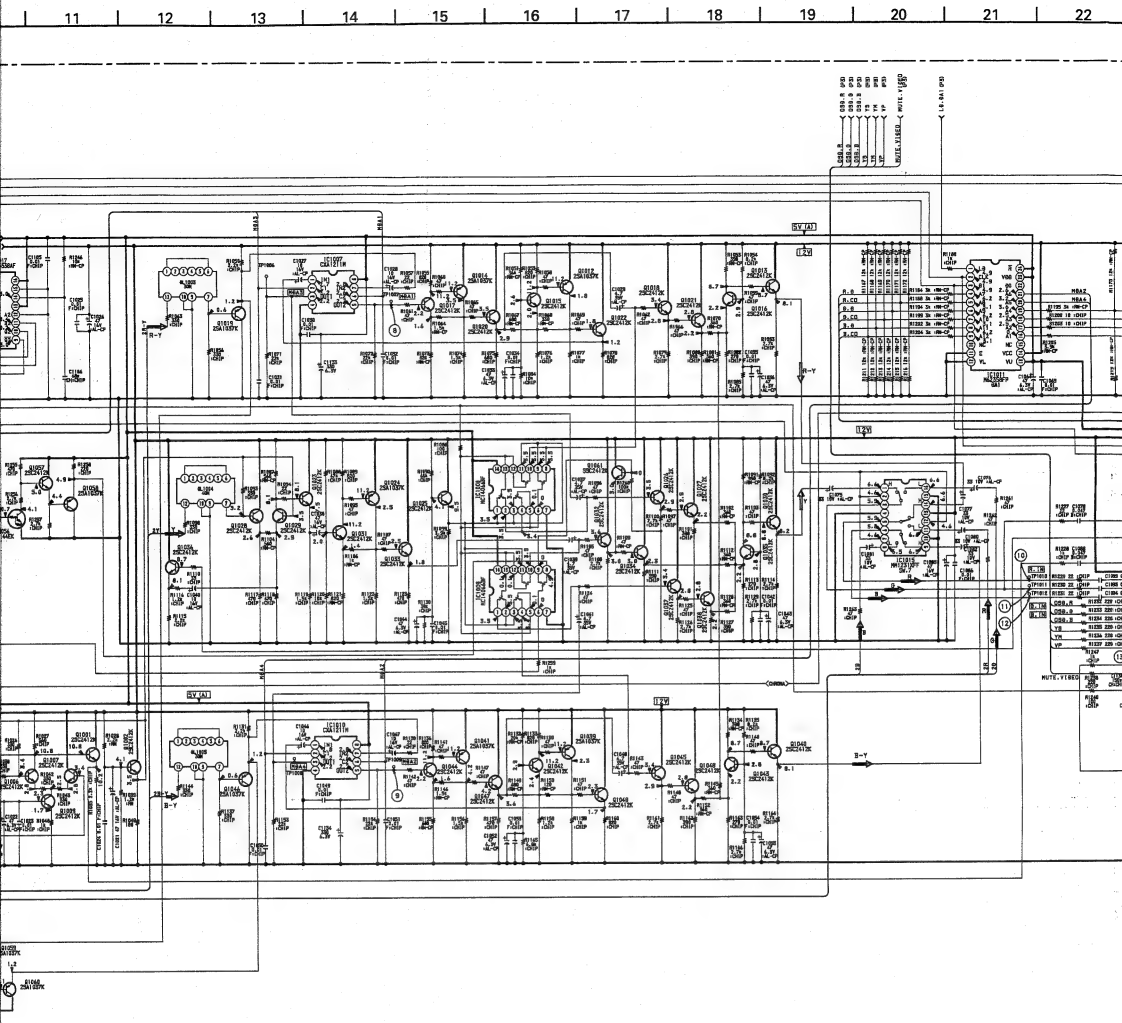
(NT.PAL DECODER, VIDEO VOL.
COMB FILTER)



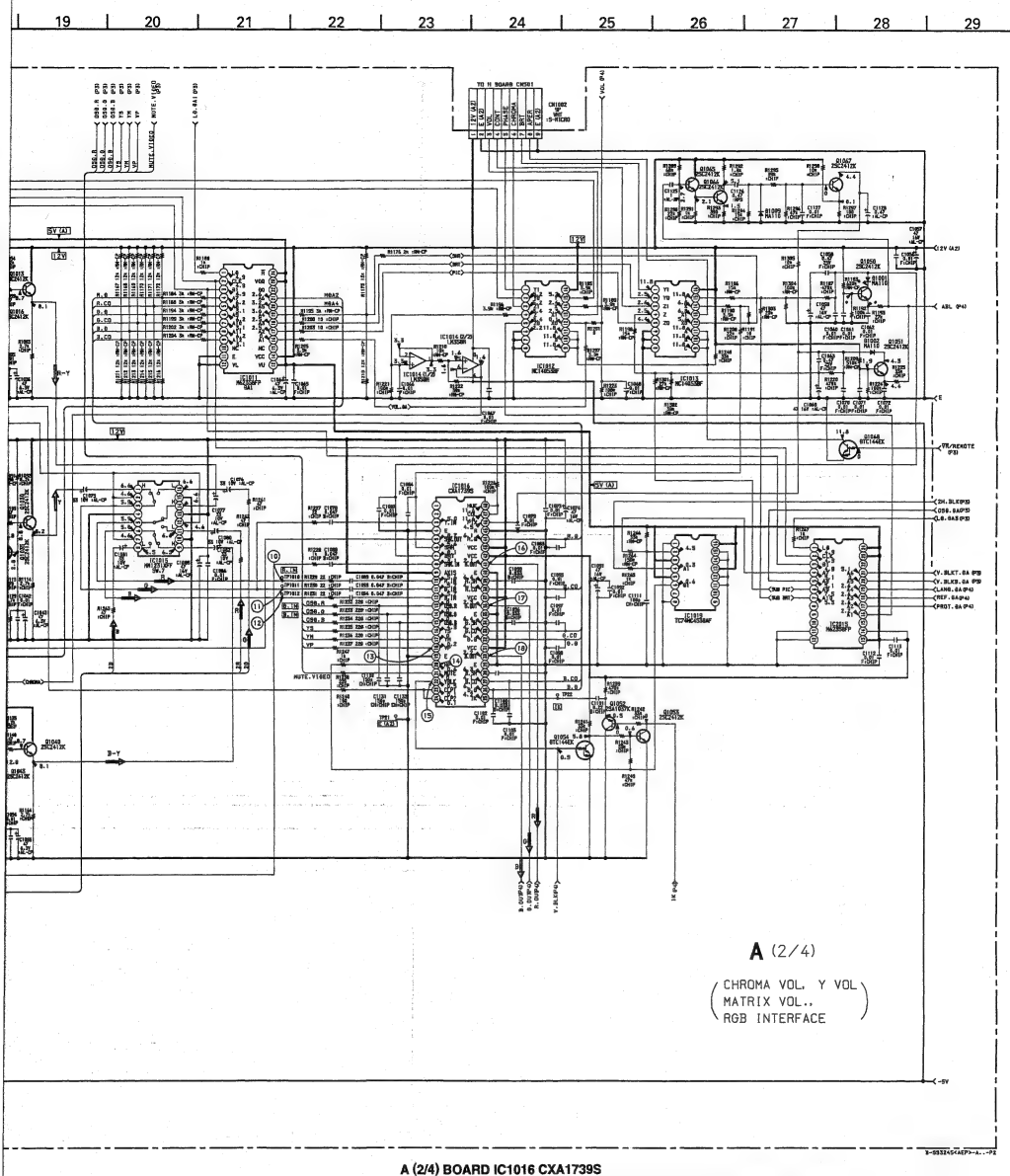


A (2/4) BOARD

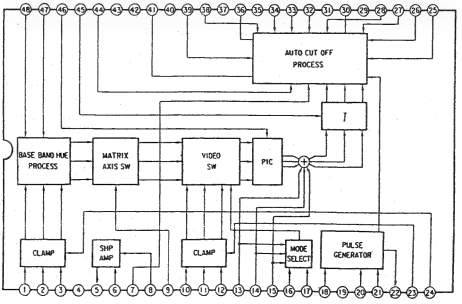
IC18	INV/SELECTOR/BUFFER	Q1001	BUFFER
IC1001	SHIFT 1	Q1002	BUFFER
IC1002	DA 2	Q1003	BUFFER
IC1003	SW 9	Q1004	BUFFER
IC1004	Y VOL	Q1005	AMP
IC1005	SW 6	Q1006	AMP
IC1007	MATRIX VOL	Q1007	BUFFER
IC1008	CLAMP	Q1008	I SINK
IC1009	CLAMP	Q1009	I SINK
IC1010	MATRIX VOL	Q1010	BUFFER
IC1011	DA 1	Q1011	BUFFER
IC1012	SW 12	Q1012	AMP
IC1013	SW 13	Q1013	BUFFER
IC1014	CHROMA BUFFER	Q1014	AMP
IC1015	SW 7	Q1015	AMP
IC1016	RGB INTERFACE	Q1016	MATRIX ADD
IC1017	CLAMP P GEN	Q1017	AMP
IC1018	MIN JUGE	Q1018	BUFFER
IC1019	H BLK GEN	Q1019	BUFFER
IC1022	CHROMA VOL	Q1020	BUFFER
IC1023	CHROMA VOL	Q1021	BUFFER
IC2015	DA 3	Q1022	BUFFER
		Q1023	BUFFER
		Q1024	AMP



Q001	BUFFER	Q1025	BUFFER	Q1049	BUFFER
Q002	BUFFER	Q1026	BUFFER	Q1050	BRT ABL
Q003	BUFFER	Q1027	BUFFER	Q1051	PIX ABL
Q004	BUFFER	Q1028	BUFFER	Q1052	IK BUFFER
Q005	AMP	Q1029	APER ADD	Q1053	IK OFF
Q006	AMP	Q1030	BUFFER	Q1054	INVERT
Q007	BUFFER	Q1031	AMP	Q1055	INVERTER
Q008	I SINK	Q1032	BUFFER	Q1056	INVERTER
Q009	I SINK	Q1033	BUFFER	Q1057	BUFFER
Q010	BUFFER	Q1034	BUFFER	Q1058	BUFFER
Q011	BUFFER	Q1035	MATRIX ADD	Q1059	DC SW
Q012	AMP	Q1036	APER BUFFER	Q1060	DC SW
Q013	BUFFER	Q1037	BUFFER	Q1061	AGING SW
Q014	AMP	Q1038	BUFFER	Q1063	BUFFER
Q015	AMP	Q1039	AMP	Q1064	BUFFER
Q016	MATRIX ADD	Q1040	BUFFER		
Q017	AMP	Q1041	AMP		
Q018	BUFFER	Q1042	AMP	D1001	LEVEL SHIFT
Q019	BUFFER	Q1043	MATRIX ADD	D1002	LEVEL SHIFT
Q020	BUFFER	Q1044	AMP	D1004	PROTECT
Q021	BUFFER	Q1045	BUFFER	D1005	PROTECT
Q022	BUFFER	Q1046	BUFFER	D1007	LEVEL SHIFT
Q023	BUFFER	Q1047	BUFFER	D1008	LEVEL SHIFT
Q024	AMP	Q1048	BUFFER		



A (2/4) BOARD IC1016 CXA1739S



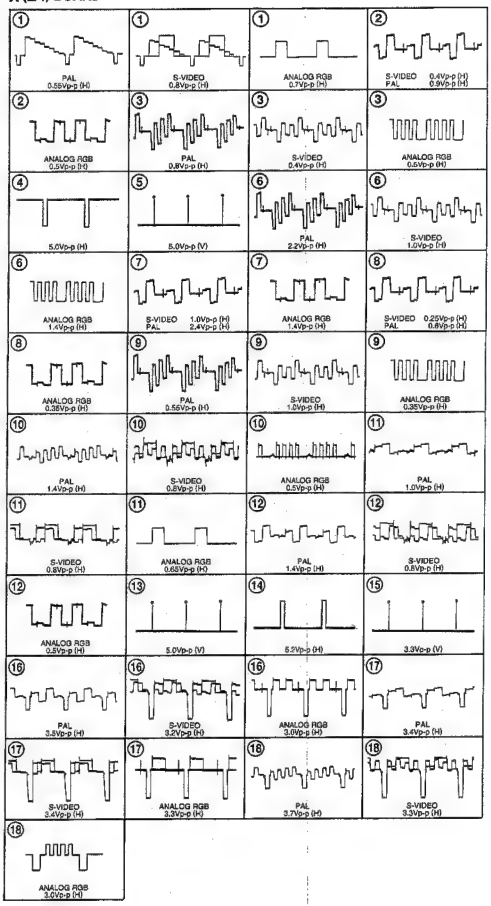
A (2/4) BOARD

REF.		PAL	S-VIDEO	R.G.B
Q1001	E	10.2	10.2	10.2
	C	–	–	–
	B	10.8	10.8	10.8
Q1002	E	3.5	3.5	3.5
	C	–	–	–
	B	4.1	4.1	4.1
Q1003	E	2.6	2.6	2.6
	C	–	–	–
	B	3.2	3.2	3.2
Q1004	E	2.6	2.6	2.6
	C	–	–	–
	B	3.2	3.2	3.2
Q1005	E	2.6	2.6	2.6
	C	10.8	10.8	10.8
	B	3.2	3.2	3.2
Q1006	E	2.8	2.8	2.8
	C	10.8	10.8	10.8
	B	3.4	3.4	3.4
Q1007	E	2.8	1.6	2.8
	C	–	–	–
	B	3.4	2.3	3.4
Q1008	E	1.7	1.7	1.7
	C	2.6	2.1	2.1
	B	2.3	2.3	2.3
Q1009	E	1.7	2.8	1.7
	C	2.5	11.8	2.5
	B	2.3	3.4	2.3
Q1010	E	2.9	2.9	2.9
	C	–	–	–
	B	2.3	2.2	2.2
Q1011	E	3.2	3.2	3.2
	C	–	–	–
	B	2.6	2.6	2.6
Q1012	E	–	–	–
	C	1.8	1.8	1.8
	B	11.2	11.2	11.2
Q1013	E	8.1	8.2	8.4
	C	–	–	–
	B	8.7	8.7	9.1
Q1014	E	–	–	–
	C	3.5	3.5	3.5
	B	11.2	11.2	11.2
Q1015	E	2.0	2.0	2.0
	C	11.2	11.2	11.2
	B	2.6	2.6	2.6
Q1016	E	2.2	2.2	2.2
	C	8.7	8.9	9.1
	B	2.9	2.9	2.9
Q1017	E	1.6	1.4	1.7
	C	11.2	11.2	11.2
	B	2.2	2.2	2.2
Q1018	E	2.8	2.8	2.6
	C	–	–	–
	B	3.4	3.4	3.4
Q1019	E	1.2	1.2	1.2
	C	–	–	–
	B	0.6	0.6	0.6
Q1020	E	2.9	2.9	2.9
	C	–	–	–
	B	3.5	3.5	3.5
Q1021	E	2.2	2.2	2.2
	C	–	–	–
	B	2.8	2.8	2.8
Q1022	E	1.2	1.2	1.2
	C	–	–	–
	B	1.8	1.8	1.8
Q1023	E	7.5	7.5	7.5
	C	–	–	–
	B	8.1	8.1	8.1

REF.		PAL	S-VIDEO	R.G.B
Q1024	E	–	–	–
	C	2.5	2.5	2.5
	B	11.2	11.2	11.2
Q1025	E	3.5	3.5	3.5
	C	–	–	–
	B	4.1	4.1	4.1
Q1026	E	2.9	2.9	2.7
	C	–	–	–
	B	3.5	3.5	3.3
Q1027	E	2.2	2.2	2.1
	C	–	–	–
	B	2.9	2.9	2.7
Q1028	E	2.6	2.6	2.6
	C	–	–	–
	B	3.2	3.2	3.2
Q1029	E	2.9	2.9	2.9
	C	8.1	8.1	8.1
	B	3.5	3.5	3.5
Q1030	E	8.2	8.2	8.2
	C	–	–	–
	B	8.8	8.8	8.8
Q1031	E	1.4	1.4	1.4
	C	11.2	11.2	11.2
	B	2.0	2.0	2.0
Q1032	E	3.0	3.0	3.0
	C	–	–	–
	B	3.6	3.6	3.6
Q1033	E	1.8	1.8	1.8
	C	–	–	–
	B	2.5	2.5	2.5
Q1034	E	2.3	2.3	2.3
	C	–	–	–
	B	3.0	3.0	3.0
Q1035	E	2.2	2.2	2.2
	C	–	–	–
	B	2.8	2.8	2.8
Q1036	E	8.1	8.1	8.1
	C	–	–	–
	B	8.7	8.7	8.7
Q1037	E	2.8	2.8	2.8
	C	–	–	–
	B	3.4	3.4	3.4
Q1038	E	2.2	2.2	2.2
	C	–	–	–
	B	2.8	2.8	2.8
Q1039	E	–	–	–
	C	2.3	2.3	2.3
	B	11.2	11.2	11.2
Q1040	E	8.1	8.1	8.5
	C	–	–	–
	B	8.7	8.7	9.1
Q1041	E	–	–	–
	C	4.2	4.2	4.2
	B	11.2	11.2	11.2
Q1042	E	2.4	2.4	2.4
	C	11.2	11.2	11.2
	B	2.8	2.9	3.4
Q1043	E	2.2	2.2	2.2
	C	–	–	–
	B	2.8	2.8	2.8
Q1044	E	1.6	1.6	1.6
	C	11.2	11.2	11.2
	B	2.2	2.2	2.2
Q1045	E	2.9	2.9	2.9
	C	–	–	–
	B	3.4	3.4	3.4
Q1046	E	1.2	1.2	1.2
	C	–	–	–
	B	0.6	0.6	0.6

REF.		PAL	S-VIDEO	R.G.B
Q1047	E	3.6	3.6	3.6
	C	–	–	–
	B	4.2	4.2	4.2
Q1048	E	2.2	2.2	2.2
	C	–	–	–
	B	2.8	2.8	2.8
Q1049	E	1.7	1.7	1.7
	C	–	–	–
	B	2.3	2.3	2.3
Q1050	E	*	*	*
	C	*	*	*
	B	*	*	*
Q1051	E	4.4	4.4	4.4
	C	4.5	4.5	4.5
	B	1.9	1.9	1.9
Q1052	E	0.5	2.3	0.5
	C	–	–	–
	B	0	2.8	0
Q1053	E	–	–	–
	C	0	0	0
	B	0.6	0.6	0.6
Q1054	E	–	–	–
	C	5.8	5.8	5.8
	B	0.5	0.5	0.5
Q1055	E	–	–	–
	C	0.1	0.1	0.1
	B	4.6	4.6	4.6
Q1056	E	–	–	–
	C	4.1	4.1	4.1
	B	0.7	0.7	0.7
Q1057	E	4.4	4.4	4.4
	C	–	–	–
	B	5.0	5.0	5.0
Q1058	E	4.9	4.9	4.9
	C	–	–	–
	B	4.4	4.4	4.4
Q1059	E	1.2	1.2	1.2
	C	–	–	–
	B	5.1	5.1	5.1
Q1060	E	1.2	1.2	1.2
	C	–	–	–
	B	5.1	5.1	5.1
Q1061	E	3.0	3.0	3.0
	C	–	–	–
	B	0	0	0
Q1063	E	1.1	1.1	1.1
	C	–	–	–
	B	0.5	0.5	0.5
Q1064	E	1.1	1.1	1.1
	C	–	–	–
	B	0.5	0.5	0.5
Q1065	E	2.1	1.5	2.1
	C	–	–	–
	B	2.7	2.7	2.7
Q1066	E	1.5	1.5	1.5
	C	5.1	5.1	5.1
	B	2.1	2.1	2.1
Q1067	E	0.1	0.1	0.1
	C	4.4	4.4	4.4
	B	0	0	0
Q1068	E	–	–	–
	C	11.8	11.8	11.8
	B	0	0	0

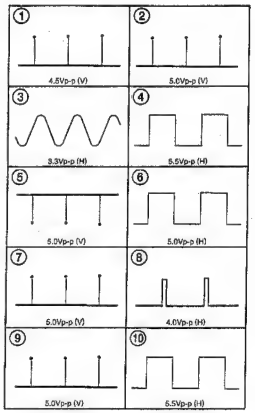
A (2/4) BOARD



A (3/4) BOARD

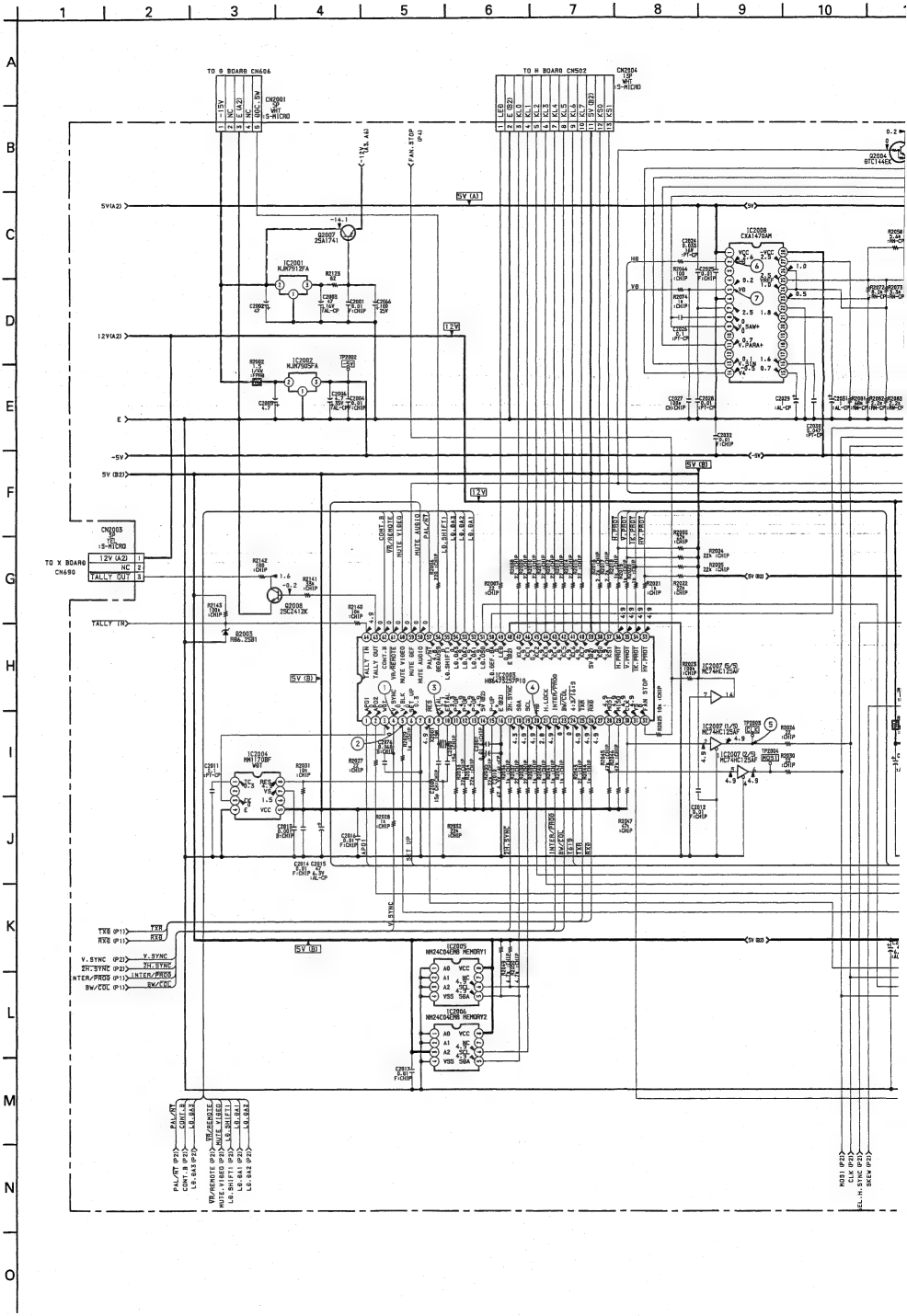
REF.	Pin No.	PAL	S-VIDEO	R.G.B
IC2003	⑤	0	0.3	0.3
	⑥	0.3	0	0
	㉓	0	0	4.2
	㊹	4.9	4.9	0.2
	㊺	4.9	0.2	4.9
	㊻	0.2	4.9	4.9
	㊼	4.8	0	0
IC2008	⑦	2.5	3.0	3.0
IC2010	⑧	0	−1.9	−1.9
	㉑	−0.1	0	0
	㉒	1.2	0.9	0.9
IC2013	㉖	0	−0.5	−0.5
	㉗	1.9	2.1	2.1
	㉙	5.4	5.2	5.2
IC2020	⑤	5.4	5.2	5.2

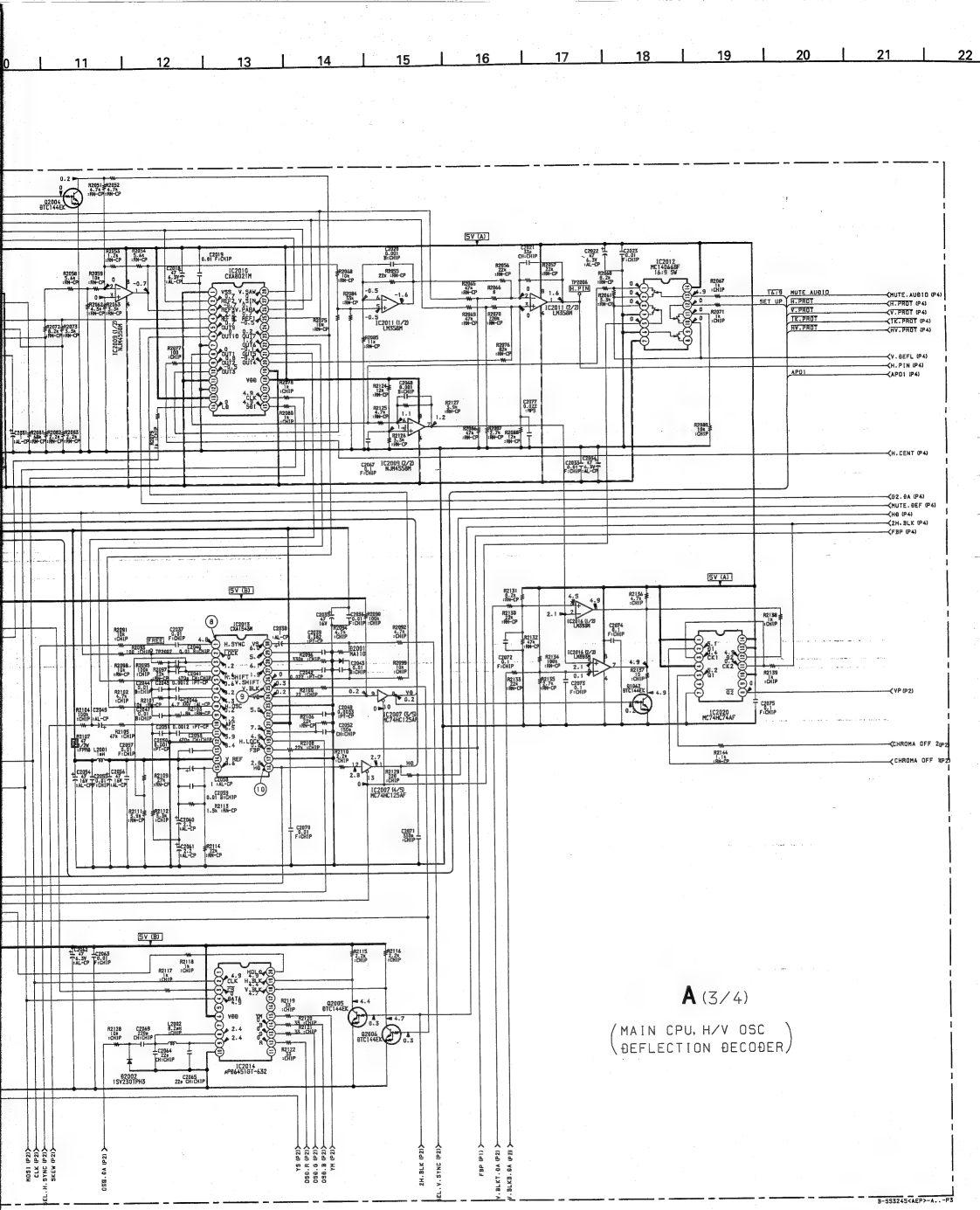
A (3/4) BOARD



A (3/4) BOARD

IC2001	−12V REG
IC2002	−5V REG
IC2003	MAIN CPU
IC2004	WDT
IC2005	MEMORY 1
IC2006	MEMORY 2
IC2007	BUFFER
IC2008	DEF SG
IC2009	V BLK SG/BUFFER
IC2010	DEF DA
IC2011	BUFFER/H PIN SG
IC2012	16:9 SW
IC2013	HV OSC
IC2014	OSD CPU
IC2016	V BLK SG
IC2020	V BLK BUFFER
Q1062	V BLK SG
Q2004	DEF MUTE
Q2005	INVERT
Q2006	INVERT
Q2007	RECTIFIER
Q2008	BUFFER
D2001	PROTECT
D2002	OSD CONT
D2003	PROTECT

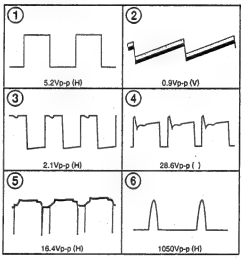



A (3/4)
(MAIN CPU, H/V OSC
DEFLECTION DECODER)

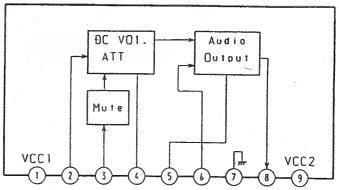
A (4/4) BOARD

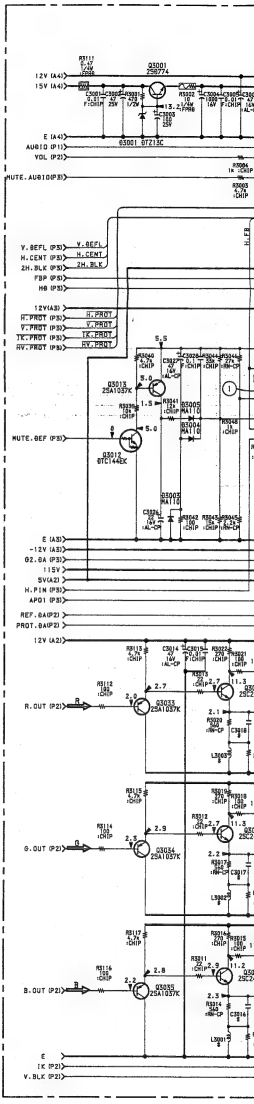
IC3001	AUDIO AMP
IC3003	H/HV PWM/PROT BUFFER
IC3004	H/V PROT
IC3005	HV REF
IC3006	HV PROT REF
IC3007	HV/IK PROT
IC3008	G2 BUFFER
IC3009	LAND VOL
Q3001	SWITCH
Q3002	MUTE AUDIO
Q3003	AMP
Q3004	AMP
Q3005	AMP
Q3006	AMP
Q3007	AMP
Q3008	AMP
Q3009	BUFFER
Q3010	BUFFER
Q3011	BUFFER
Q3012	INVERT
Q3013	INVERT
Q3014	APO 1
Q3016	LATCH
Q3017	LATCH
Q3024	INVERTER
Q3029	HV DRIVE
Q3030	HV PWM
Q3031	HV OUT
Q3032	G2 OUT
Q3033	BUFFER
Q3034	BUFFER
Q3035	BUFFER
Q3036	LATCH
Q3037	LATCH
Q3038	INVERTER
Q3039	INVERTER
Q3040	P OFF MUTE
Q3041	P OFF MUTE
Q3042	V BLK
Q3043	LATCH
D3001	RECTIFIER
D3002	RECTIFIER
D3003	RECTIFIER
D3004	OR
D3005	OR
D3006	PROTECT
D3007	P ON MUTE
D3008	PROT
D3012	PROT
D3013	PROT
D3014	PROT
D3015	PROT
D3016	PROT
D3017	G2 RECTIFIER
D3019	PROT
D3021	PROT
D3022	PROT
D3023	IK PROT
D3024	IK PROT
D3025	H PROT
D3026	H PROT
D3028	HV PROT
D3029	HV PROT
D3030	RECTIFIER
D3031	HV PROT
D3032	PROT

A (4/4) BOARD



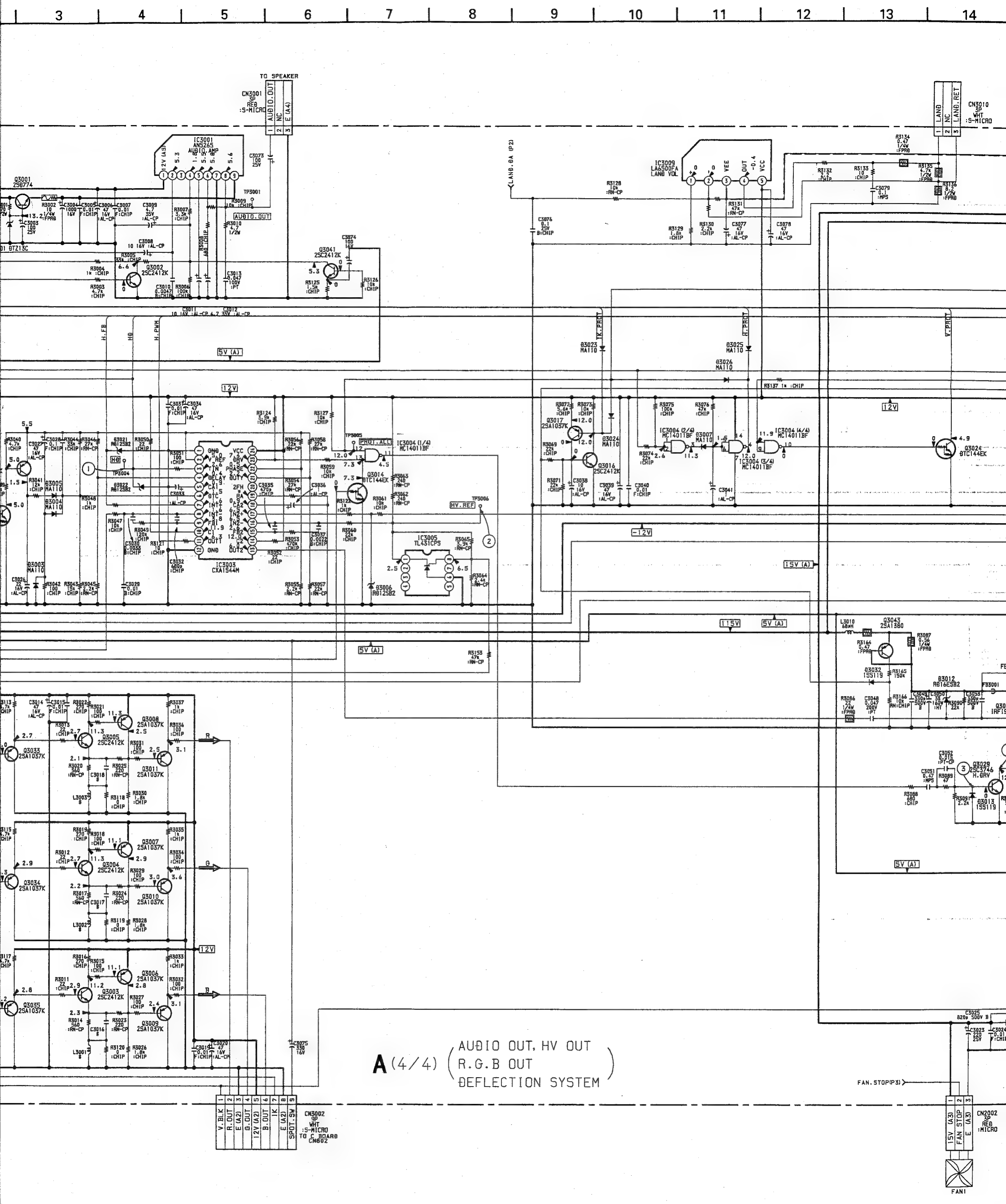
A (4/4) BOARD IC3001 AN5265



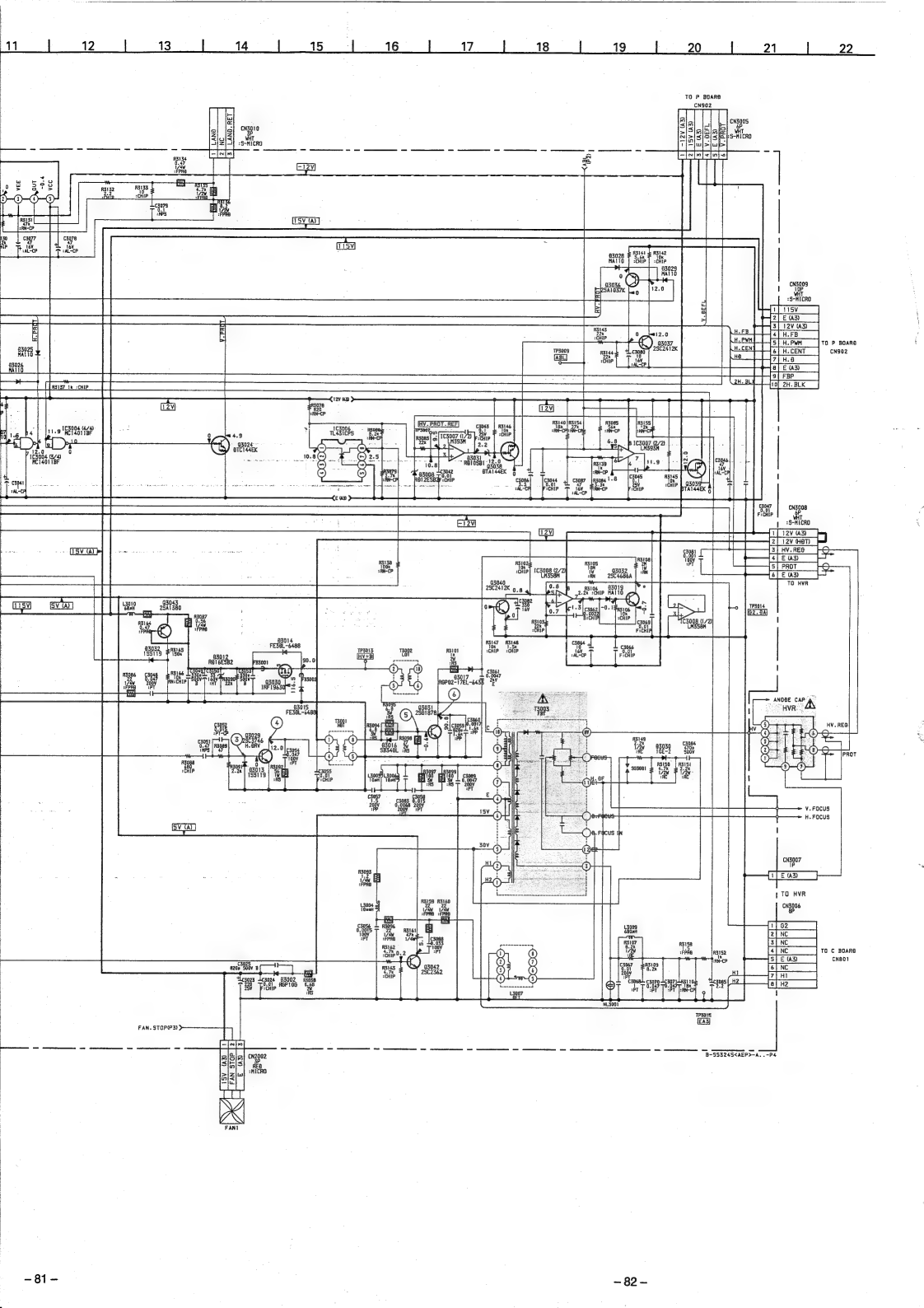


Schematic diagram
← A (3/4) board

Schematic diagram
A (4/4) board →



A (4/4) (AUDIO OUT, HV OUT
R.G.B OUT
DEFLECTION SYSTEM)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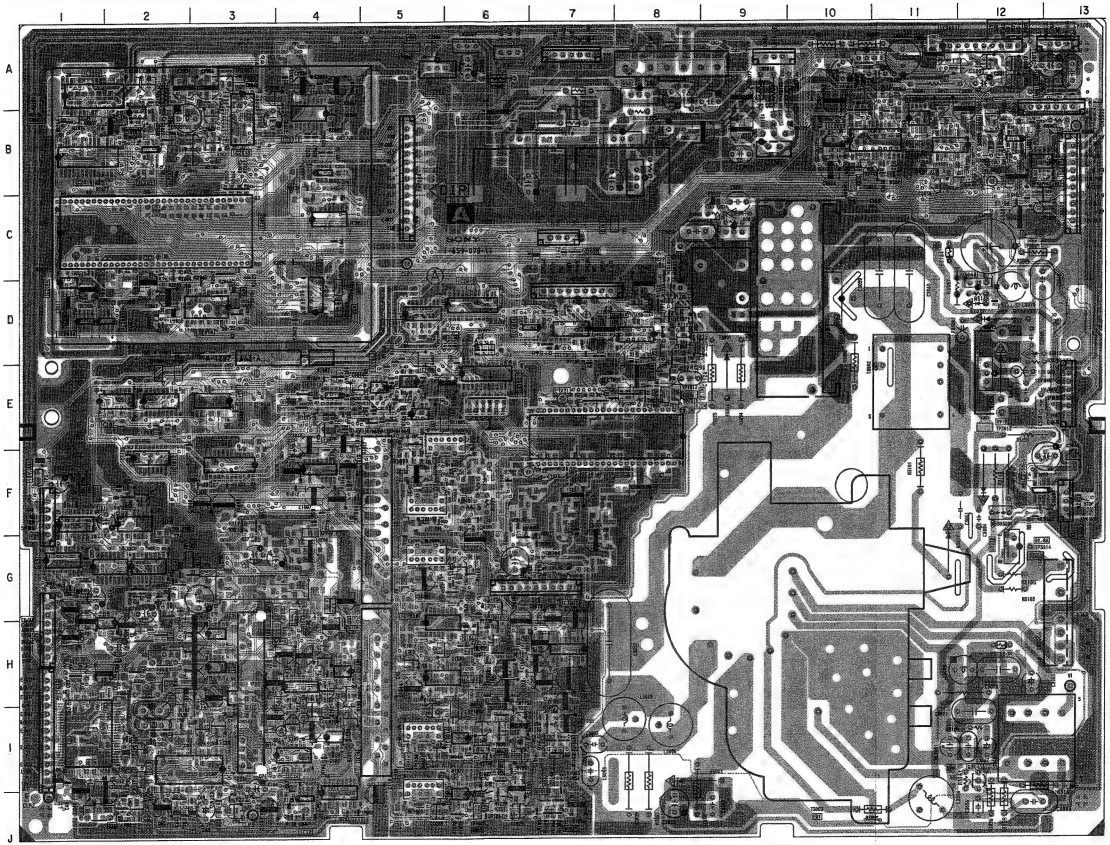
TO P BOARD CN902
CN3010 WHT I5-MICRO
LAND
NC
GND
RET
-12V
15V (A)
15V
12V
5V (A)
5V
CN3009 WHT I5-MICRO
1 I15V
2 E (A3)
3 I2V (A3)
4 H.FB
5 H.PWM
6 H.CENT
7 H.D
8 E (A5)
9 FBP
10 2H. BLK
TO P BOARD CN902
CN3008 WHT I5-MICRO
1 I2V (A3)
2 I2V (HOT)
3 HV. REG
4 E (A3)
5 PROT
6 E (A3)
TO HVR
ANODE CAP HVR
HV. REG
PROT
Y. FOCUS
H. FOCUS
CN3007 I/P
1 E (A3)
TO HVR
CN3006 B/P
1 G2
2 NC
3 NC
4 NC
5 E (A5)
6 NC
7 H1
8 H2
TO C BOARD CN801
CN3002 WHT I5-MICRO
5V (A3)
FAN STOP
E (A3)
FAN1
FAN. STOP(P3)
H. PROT
V. PROT
H. REG.
V. REG.
B-5532454<AEP>-A..-P4
– 81 –
– 82 –

A [NT/PAL DECODER, VIDEO VOL, COMB FILTER] [CHROMA VOL, Y VOL, MATRIX VOL, RGB INTERFACE] [MAIN CPU, H. V OSC, DEFLECTION DECODER] [AUDIO OUT, R.G.B OUT, HV OUT, DEFLECTION SYSTEM]

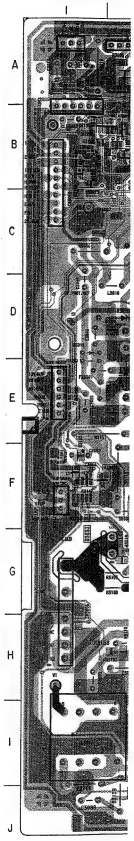
A BOARD (COMPONENT SIDE)

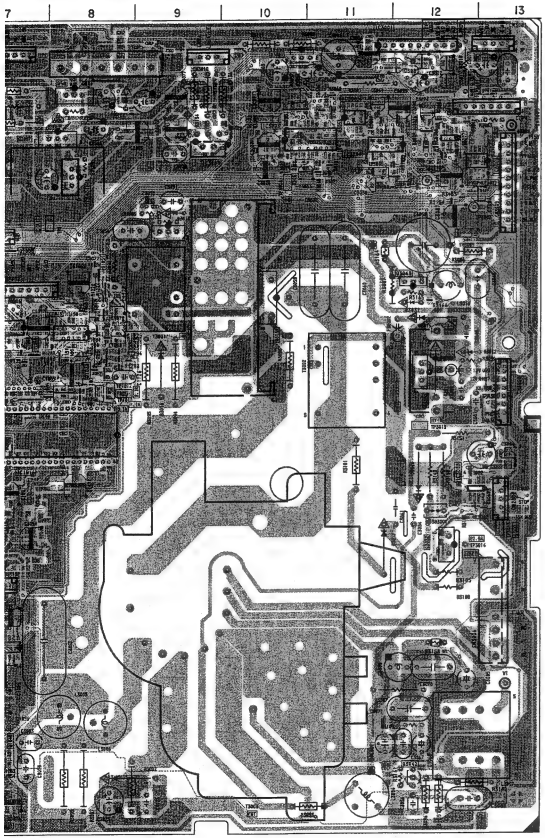
IC		TRANSISTOR	
IC1	F-1	Q1	B-7
IC2	F-2	Q3	G-1
IC3	G-1	Q5	F-2
IC4	G-2	Q7	H-2
IC5	G-2	Q8	H-2
IC6	G-2	Q12	H-2
IC7	G-3	Q13	F-3
IC9	H-3	Q15	G-2
IC10	H-1	Q17	G-3
IC11	H-4	Q26	J-2
IC12	J-4	Q58	A-8
IC13	I-2	Q1018	J-7
IC14	I-4	Q1021	J-7
IC15	H-4	Q1022	I-6
IC16	I-4	Q1045	I-7
IC17	J-4	Q1048	I-7
IC18	E-2	Q1049	H-6
IC1001	E-3	Q1050	D-7
IC1002	E-3	Q1051	C-8
IC1003	E-2	Q1056	G-6
IC1004	E-5	Q1057	G-6
IC1005	F-4	Q1058	H-6
IC1007	J-5	Q1059	E-4
IC1008	H-5	Q1060	E-4
IC1009	H-6	Q1061	H-6
IC1010	I-5	Q1063	E-5
IC1011	E-6	Q1064	E-5
IC1012	D-7	Q1065	D-8
IC1013	D-8	Q2007	B-7
IC1014	D-6	Q2008	C-7
IC1015	G-7	Q3001	A-10
IC1016	F-7	Q3009	F-6
IC1017	F-2	Q3014	B-12
IC1018	E-4	Q3029	C-9
IC1019	D-5	Q3031	D-10
IC1022	E-5	Q3032	G-12
IC1023	E-5	Q3036	B-12
IC2001	B-8	Q3042	I-12
IC2002	A-5	Q3043	D-12
IC2003	C-3		
IC2004	D-1	**DIODE**	
IC2005	D-2		
IC2006	D-1	D10	A-8
IC2007	C-4	D1001	B-8
IC2008	A-1	D1007	E-4
IC2009	B-2	D1008	E-4
IC2010	B-1	D2002	D-2
IC2011	B-2	D3002	I-8
IC2012	B-4	D3007	B-11
IC2013	B-3	D3008	B-13
IC2014	D-3	D3012	D-12
IC2015	D-6	D3013	C-9
IC2016	B-4	D3014	E-12
IC2020	C-4	D3015	D-12
IC3001	A-12	D3016	E-9
IC3003	B-10	D3017	G-11
IC3004	B-11	D3021	B-11
IC3005	A-11	D3022	B-10
IC3006	B-13	D3029	B-12
IC3007	B-12	D3030	F-12
IC3008	F-12	D3032	D-12
IC3009	B-9		

– A BOARD – <Component Side>



<Conductor S

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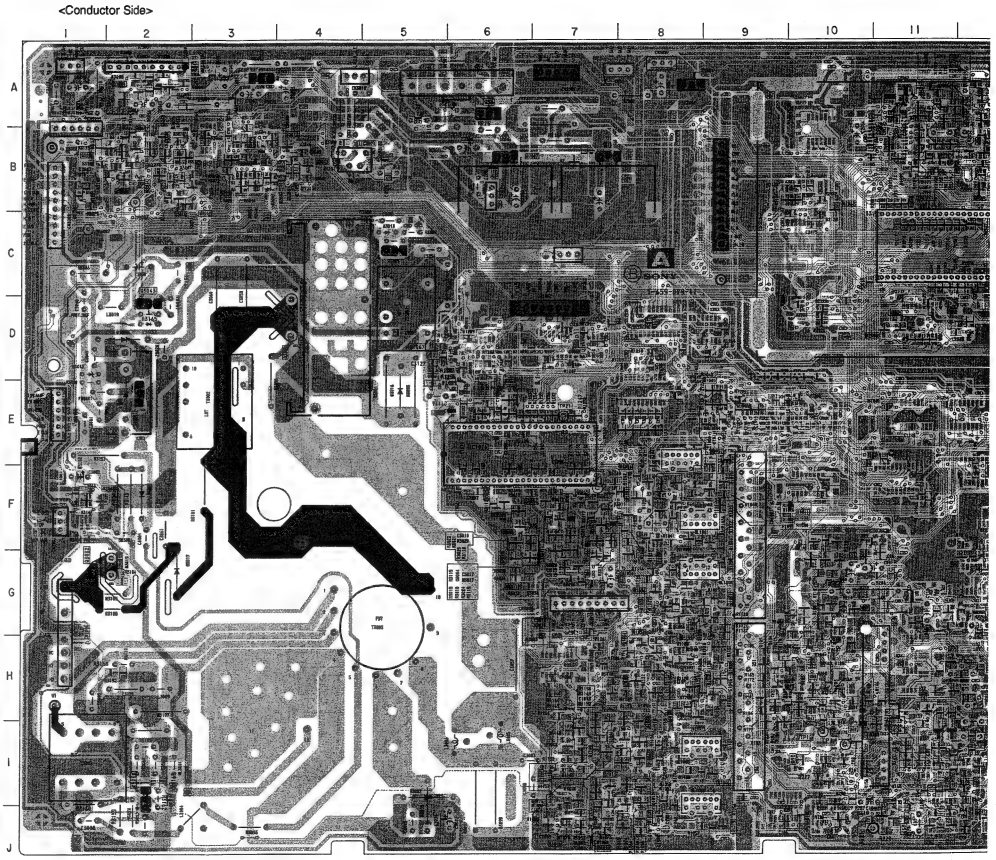
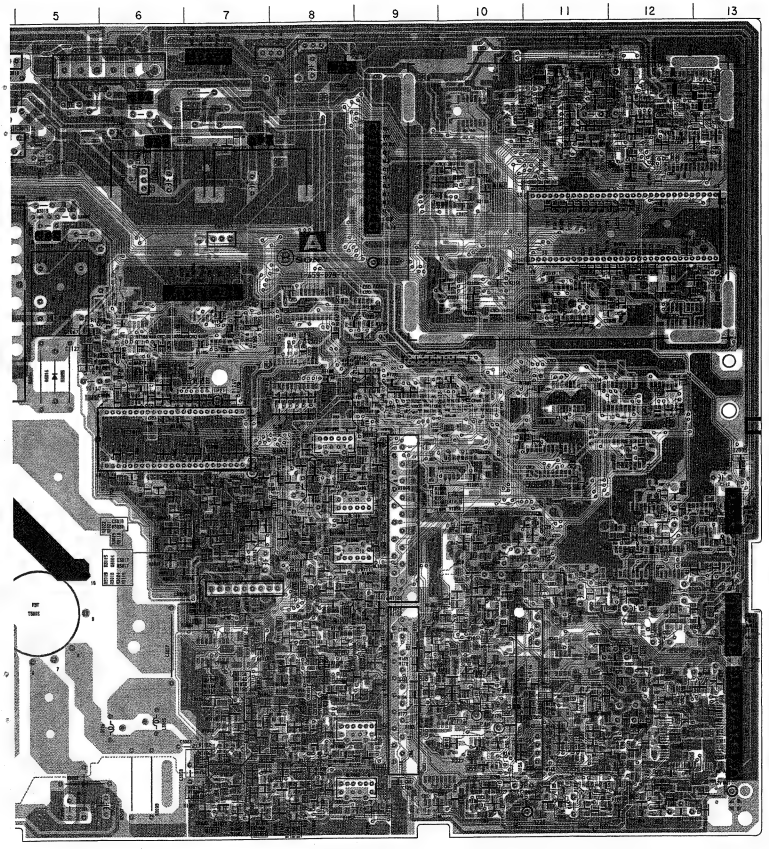
13


<Conductor Side>
1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
I
J

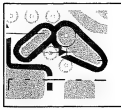


A BOARD
(CONDUCTOR SIDE)

TRANSISTOR	
Q2	G-12
Q4	G-12
Q6	F-12
Q9	F-10
Q10	G-11
Q11	F-10
Q14	G-10
Q16	F-10
Q18	G-11
Q19	H-11
Q20	H-12
Q21	H-11
Q22	H-12
Q23	J-13
Q24	J-12
Q25	J-12
Q27	I-12
Q28	I-12
Q35	I-11
Q36	J-11
Q37	J-11
Q38	I-12
Q39	I-12
Q40	I-10
Q41	I-11
Q42	H-11
Q43	G-10
Q44	H-10
Q45	H-9
Q46	G-9
Q47	H-10
Q48	H-9
Q49	H-10
Q50	H-10
Q51	H-9
Q52	I-12
Q56	J-11
Q57	J-11
Q59	I-10
Q1001	F-8
Q1002	F-9
Q1003	F-10
Q1004	F-9
Q1005	G-8
Q1006	F-8
Q1007	E-9
Q1008	F-7
Q1009	E-9
Q1010	F-9
Q1011	F-10
Q1012	I-8
Q1013	I-7
Q1014	I-7
Q1015	I-7
Q1016	J-7
Q1017	J-8
Q1019	J-9
Q1020	J-7
Q1023	G-8
Q1024	H-8
Q1025	H-8
Q1026	H-8
Q1027	H-8
Q1028	G-8
Q1029	G-8
Q1030	H-7
Q1031	G-9
Q1032	G-8
Q1033	H-9
Q1034	H-7
Q1035	H-7
Q1036	G-8
Q1037	I-8
Q1038	H-8
Q1039	I-8
Q1040	H-7
Q1041	I-7
Q1042	H-7
Q1043	I-7
Q1044	I-8
Q1046	I-9
Q1047	I-7
Q1052	F-7
Q1053	F-7
Q1054	G-8
Q1055	E-12
Q1062	B-10
Q1066	E-8
Q1067	D-5
Q1068	D-7
Q2004	B-12
Q2005	D-11
Q2006	D-11
Q3002	A-2
Q3003	F-7
Q3004	G-6
Q3005	F-6
Q3006	G-7
Q3007	G-7
Q3008	G-6
Q3010	G-7
Q3011	G-6
Q3012	B-4
Q3013	B-4
Q3016	B-2
Q3017	B-3
Q3024	B-2
Q3033	F-6
Q3034	F-6
Q3035	F-7
Q3037	B-2
Q3038	B-1
Q3039	B-2
Q3040	F-1
Q3041	A-2

DIODE	
D1	B-7
D2	B-7
D4	I-11
D5	H-11
D7	I-12
D9	A-5
D1002	D-8
D1004	F-11
D1005	F-11
D1009	E-5
D2001	A-11
D2003	F-13
D3001	A-3
D3003	B-3
D3004	B-4
D3005	B-4
D3006	B-3
D3019	G-2
D3023	B-2
D3024	B-2
D3025	B-2
D3026	B-2
D3028	B-2
D3031	B-1

• : Pattern from the side which enables seeing.
• : Pattern of the rear side.



NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

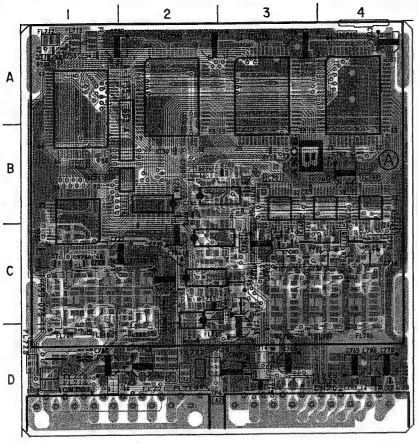
PVM-20M7MDE PVM-20M7MDE

B [A/D, D/A CONVERTER, MEMORY, FLICKER FREE CPU]

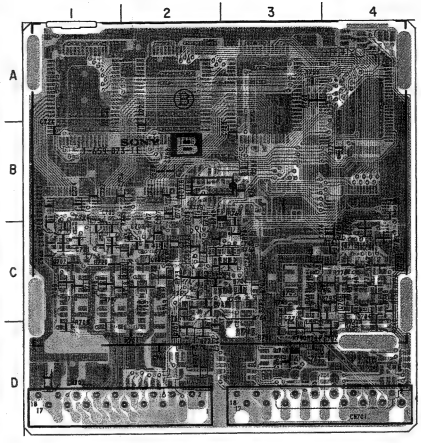
B BOARD (COMPONENT SIDE)

IC	
IC701	B-3
IC702	B-4
IC703	B-4
IC704	C-2
IC708	A-2
IC709	A-4
IC710	A-3
IC711	B-1
IC712	A-1
IC713	B-2
IC714	C-2
IC715	C-2
IC716	B-2
TRANSISTOR	
Q711	C-4
Q712	C-3
DIODE	
D703	A-1

– B BOARD – <Component Side>



<Conductor Side>

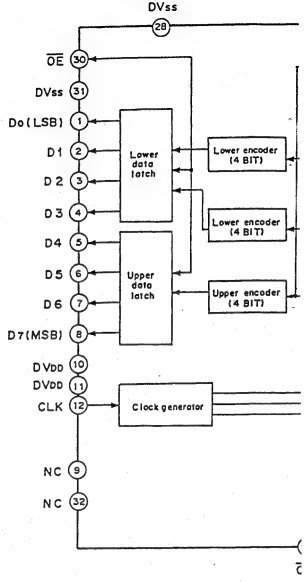


• : Pattern from the side which enables seeing.
• : Pattern of the rear side.

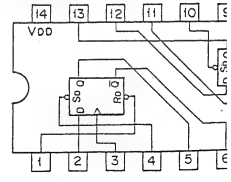
B BOARD (CONDUCTOR SIDE)

IC	
IC718	B-2
TRANSISTOR	
Q701	C-2
Q702	C-1
Q703	C-2
Q704	C-4
Q705	C-3
Q706	C-4
Q707	D-2
Q708	C-4
Q709	C-4
Q710	C-4
DIODE	
D701	C-2
D702	C-3
D704	C-3
D705	C-3
D706	D-1
D707	D-2

B BOARD IC701-703 CXD1176Q



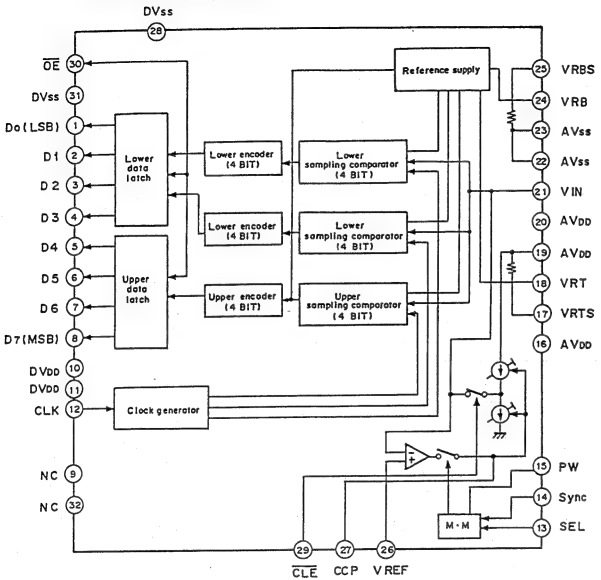
B BOARD IC713 MC74HC74AF



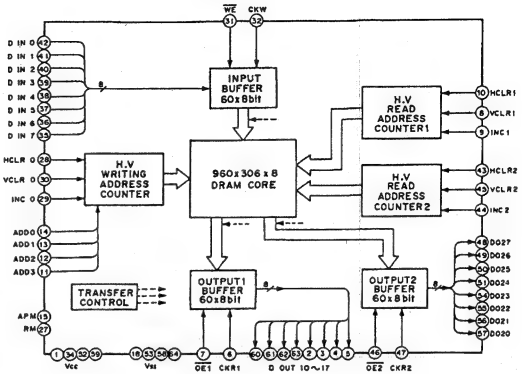
B BOARD (CONDUCTOR SIDE)

IC	
IC718	B-2
TRANSISTOR	
Q701	C-2
Q702	C-1
Q703	C-2
Q704	C-4
Q705	C-3
Q706	C-4
Q707	D-2
Q708	C-4
Q709	C-4
Q710	C-4
DIODE	
D701	C-2
D702	C-3
D704	C-3
D705	C-3
D706	D-1
D707	D-2

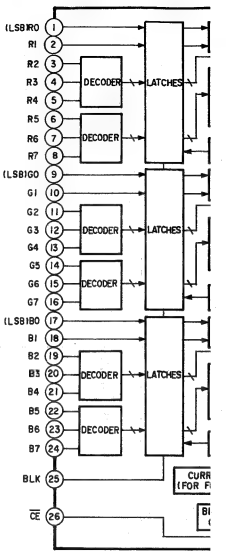
B BOARD IC701-703 CXD1176Q



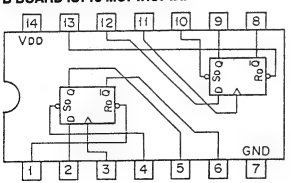
B BOARD IC708-710 CXK48324Q



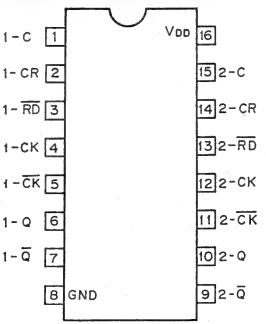
B BOARD IC711 CXD1175



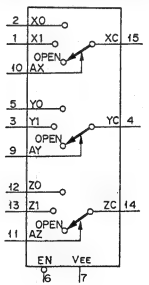
B BOARD IC713 MC74HC74AF



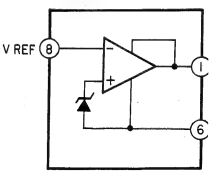
B BOARD IC717 MC74HC4538AF

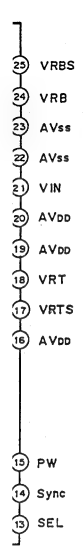


B BOARD IC714 MC74HC4053F

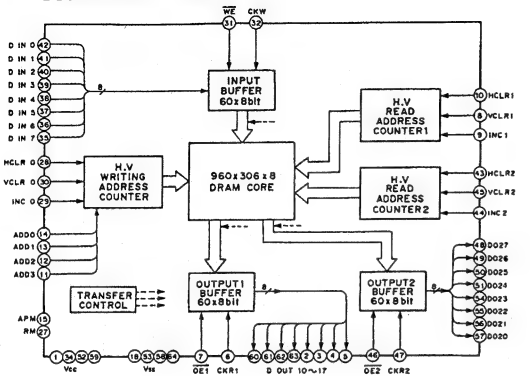


B BOARD IC715 TL431CP

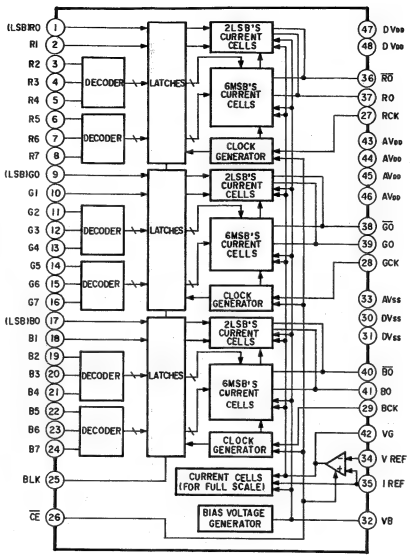




B BOARD IC708-710 CXK48324Q



B BOARD IC711 CXD1178Q



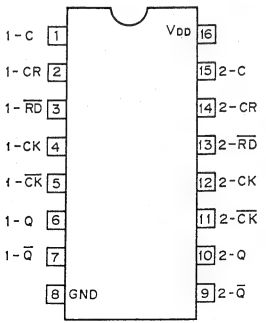
B BOARD

REF.	Pin No.	PAL	S-VIDEO	R.G.B
IC701	①	2.1	1.6	2.1
	②	2.3	1.8	2.3
	③	1.8	2.7	4.0
	④	2.5	2.5	3.4
	⑤	2.4	1.2	4.7
	⑥	2.3	2.5	1.4
	⑦	2.5	1.6	0
	⑧	0	1.1	1.3
	㉙	0.6	0.6	0
	㉚	0.8	0.8	0
IC702	①	2.3	2.3	1.9
	②	2.3	2.3	0.9
	③	0.7	1.1	0.9
	④	0.3	1.9	3.3
	⑤	1.7	1.1	0
	⑥	1.7	1.1	4.8
	⑦	3.5	3.8	1.3
	⑧	0	2.6	2.6
	⑰	0	2.6	2.6
	⑱	0.6	0.6	0
	㉙	0	1.6	1.2
IC703	①	2.3	2.6	2.3
	②	1.1	0.8	1.1
	③	2.1	1.3	1.0
	④	1.8	1.2	3.1
	⑤	1.7	1.1	0
	⑥	1.7	1.1	4.8
	⑦	3.1	3.8	1.3
	⑧	1.6	1.6	1.2
IC704	①	4.8	0	0
	②	0	4.8	4.8
	⑯	0	0	4.8
	⑰	4.6	4.6	0
IC708	②	1.9	1.9	2.7
	③	1.4	2.3	3.1
	④	1.7	1.2	1.9
	⑤	1.7	1.2	1.9
	㉒	0	1.1	1.3
	㉓	2.5	1.5	0
	㉗	2.3	2.3	1.4
	㉘	2.4	1.2	4.7
	㉙	2.5	2.5	3.4
	㊵	1.9	2.8	4.0
	㊶	2.2	1.8	2.2
	㊷	2.3	1.6	2.3
	㊸	0	0.8	1.0
	㊹	1.9	1.2	0
	㊺	1.9	1.9	1.1
	㊻	1.8	0.9	3.7
IC709	②	0.6	0.8	0.6
	③	1.7	1.7	0.8
	④	1.7	1.7	1.5
	㉖	3.5	3.8	1.3
	㉘	1.7	1.0	4.8
	㉗	1.7	1.1	0
	㉙	0.3	1.9	3.3
	㉚	0.7	1.1	0.7
	㊵	2.3	2.1	1.0
	㊶	2.3	2.3	1.9
	㊷	2.5	2.5	0
	㊸	2.7	2.9	1.0
	㊹	1.4	0.8	3.7
	㊺	1.4	0.8	0
	㊻	0.3	1.5	2.5

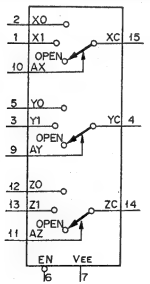
REF.	Pin No.	PAL	S-VIDEO	R.G.B
IC710	②	1.7	1.0	0.8
	③	0.9	0.7	1.0
	④	1.7	1.5	1.7
	⑤	1.8	2.1	1.8
	㉙	3.1	3.8	1.3
	㉚	1.7	1.1	4.8
	㉗	1.7	1.1	0
	㉘	1.8	1.2	3.0
	㊴	2.1	1.3	1.0
	㊵	1.1	0.8	1.3
IC711	①	2.2	2.0	2.0
	②	2.3	2.8	2.3
	㊴	2.4	2.9	1.0
	㊶	1.3	0.8	3.8
	㊷	1.3	0.8	0
	㊸	1.4	1.0	2.3
	①	1.8	1.4	1.8
	②	1.8	1.3	1.8
	③	1.5	2.4	3.2
	④	2.0	1.7	2.7
	⑤	2.0	0.9	2.7
	⑥	2.0	1.8	2.7
	⑦	0	1.1	0
	⑧	0	1.0	1.0
	⑩	1.9	1.9	1.5
	⑪	1.7	1.7	0.8
	⑫	0.6	0.8	0.6
	⑬	0.3	1.5	2.5
	⑭	1.4	0.8	0
	⑮	1.4	0.8	3.7
	⑯	2.7	2.9	1.0
	⑰	1.8	2.1	1.8
	⑱	1.8	1.5	1.6
	⑲	0.9	0.7	1.0
	⑳	1.7	1.1	0.8
	㉑	1.4	0.9	2.4
	㉒	1.4	0.9	0
	㉓	1.4	0.8	3.8
	㉔	2.4	2.9	1.0
	㉗	0.6	0.6	0.5
	㉘	1.2	1.2	1.0
	㉙	1.2	1.2	1.0
IC712	⑲	3.1	3.3	3.3
IC714	②	3.1	3.3	3.1
	③	3.1	3.3	3.1
	④	3.1	3.3	3.1
	⑮	3.1	3.3	3.1

REF.		PAL	S-VIDEO	R.G.B
Q709	E	1.8	1.8	1.6
	C	—	—	—
	B	1.2	1.2	1.0
Q710	E	1.8	1.8	1.6
	C	—	—	—
	B	1.2	1.2	1.0
Q711	E	0.5	0.5	0.5
	C	1.1	1.1	0.6
	B	0	0	1.2
Q712	E	0.5	0.5	0.5
	C	1.1	1.1	0.6
	B	0	0	1.2

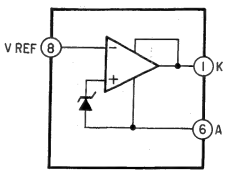
B BOARD IC717 MC74HC4538AF

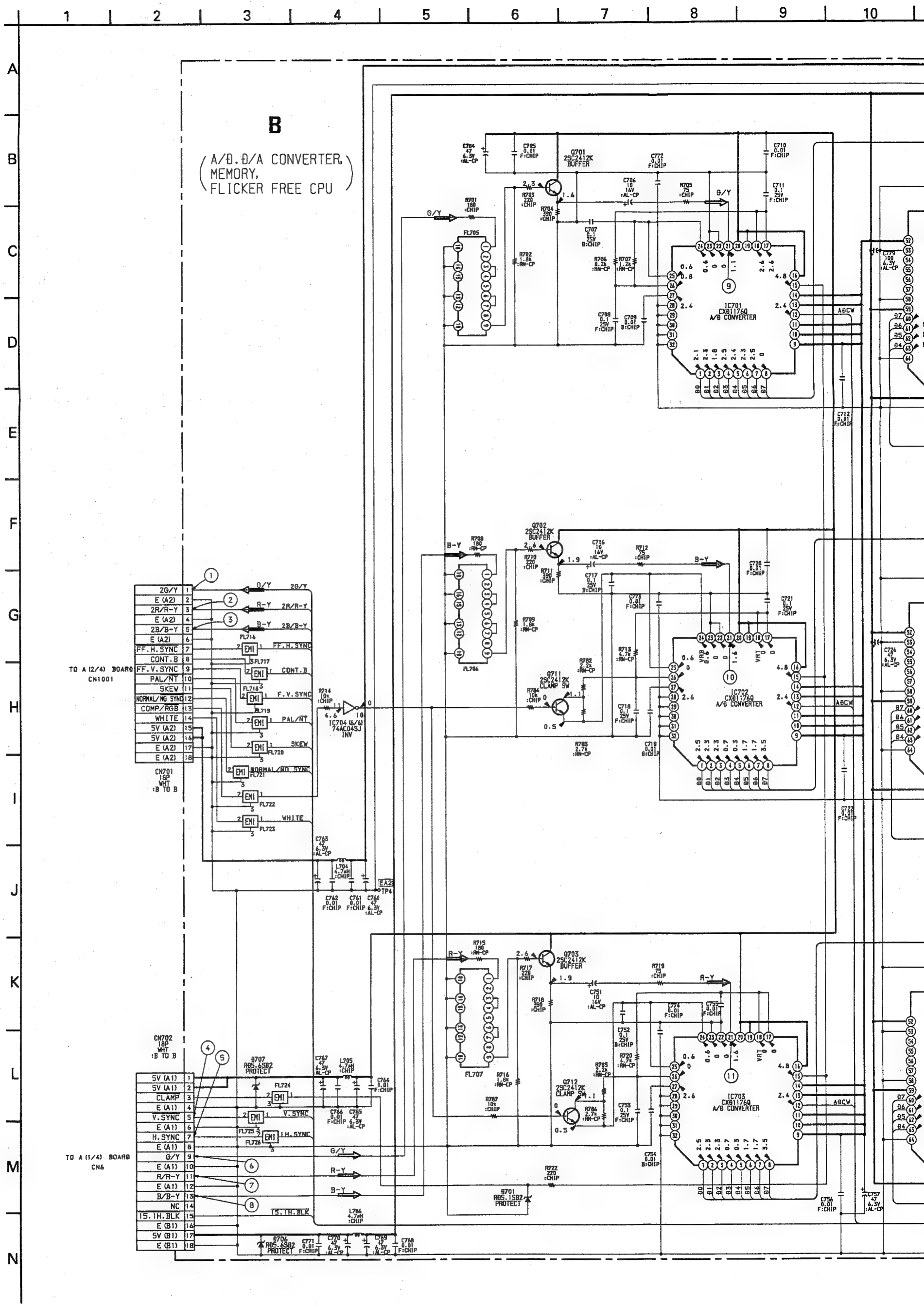


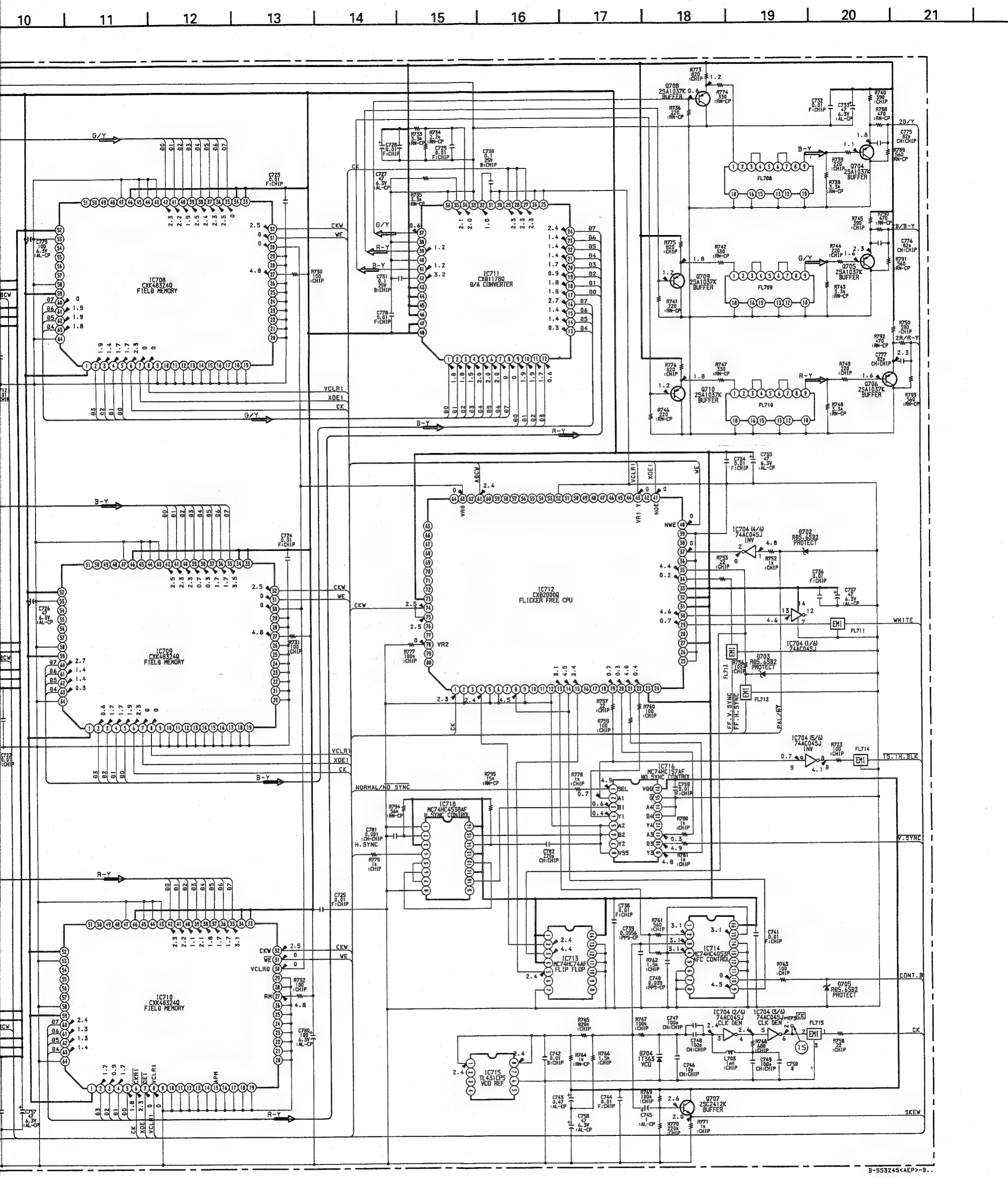
B BOARD IC714 MC74HC4053F



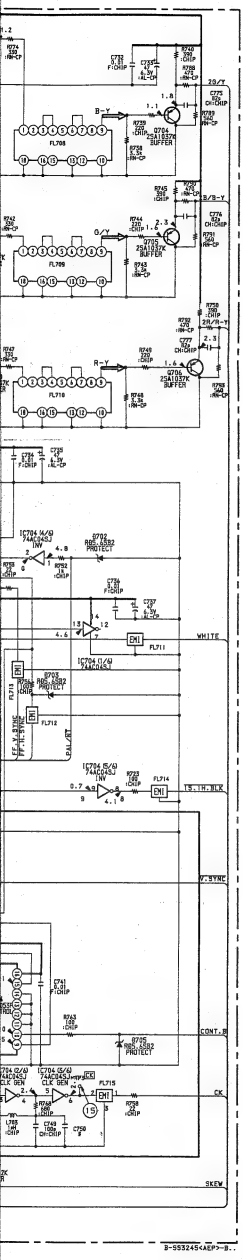
B BOARD IC715 TL431CPS



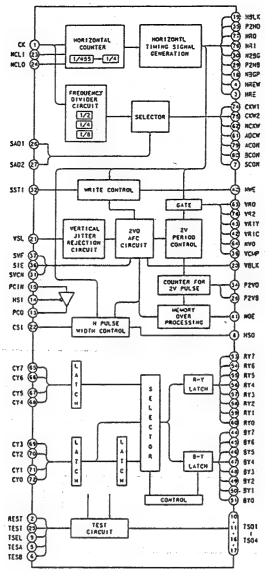

B
A/D.D/A CONVERTER, MEMORY, FLICKER FREE CPU
Q701 2SC2412K BUFFER
IC701 CXD1176Q A/D CONVERTER
FL705
G/Y
Q702 2SC2412K BUFFER
Q711 2SC2412K CLAMP SW
IC702 CXD1176Q A/D CONVERTER
FL706
B-Y
Q703 2SC2412K BUFFER
Q712 2SC2412K CLAMP SW
IC703 CXD1176Q A/D CONVERTER
FL707
R-Y
ADCW
IC704 (6/6) 74AC04SJ INV
TO A (2/4) BOARD CN1001
CN701 18P WHT :B TO B
2G/Y
E (A2)
2R/R-Y
2B/B-Y
FF.H.SYNC
CONT.B
FF.V.SYNC
PAL/NT
SKEW
NORMAL/NO SYNC
COMP/RGB
WHITE
5V (A2)
TO A (1/4) BOARD CN6
CN702 18P WHT :B TO B
5V (A1)
CLAMP
E (A1)
V.SYNC
H.SYNC
G/Y
R/R-Y
B/B-Y
NC
15.1H.BLK
E (B1)
5V (B1)
D707 RD5.6SB2 PROTECT
D706 RD5.6SB2 PROTECT
D701 RD5.1SB2 PROTECT
L704 4.7μH :CHIP
L705 4.7μH :CHIP
L706 4.7μH :CHIP
EA2 TP4



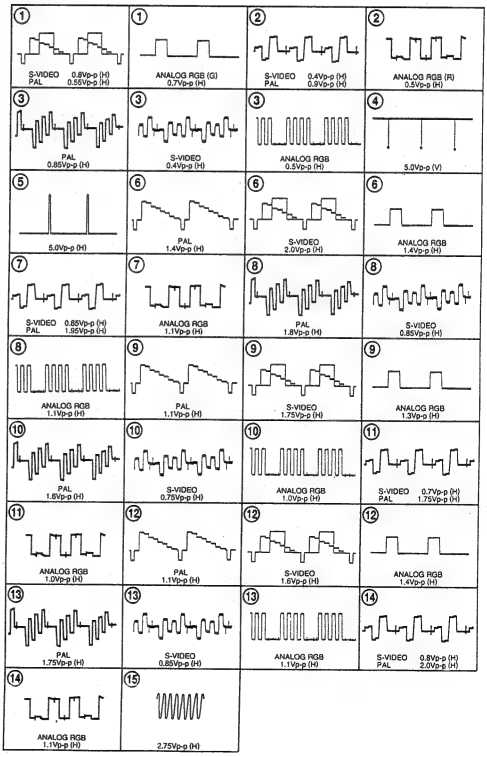
10 11 12 13 14 15 16 17 18 19 20 21
IC708 CXK483240 FIELD MEMORY
IC709 CXK483240 FIELD MEMORY
IC710 CXK483240 FIELD MEMORY
IC711 CXB11780 D/A CONVERTER
IC712 CXB20000 FLICKER FREE CPU
IC713 MC74HC74AF FLIP FLOP
IC714 MC74HC4053F AFC CONTROL
IC715 TL431CPS VCO REF
IC716 MC74HC157AF NO SYNC CONTROL
IC718 MC74HC4538AF H.SYNC CONTROL
IC704 74AC04SJ
Q704 2SA1037K BUFFER
Q705 2SA1037K BUFFER
Q706 2SA1037K BUFFER
Q707 2SC2412K BUFFER
Q708 2SA1037K BUFFER
Q709 2SA1037K BUFFER
Q710 2SA1037K BUFFER
FL708
FL709
FL710
G/Y
B-Y
R-Y
CKW
WE
CK
VCLR1
XOE1
NORMAL/NO SYNC
H.SYNC
WHITE
V.SYNC
CONT.B
SKEW
15.1H.BLK
B-SS324S<AEP>-B..

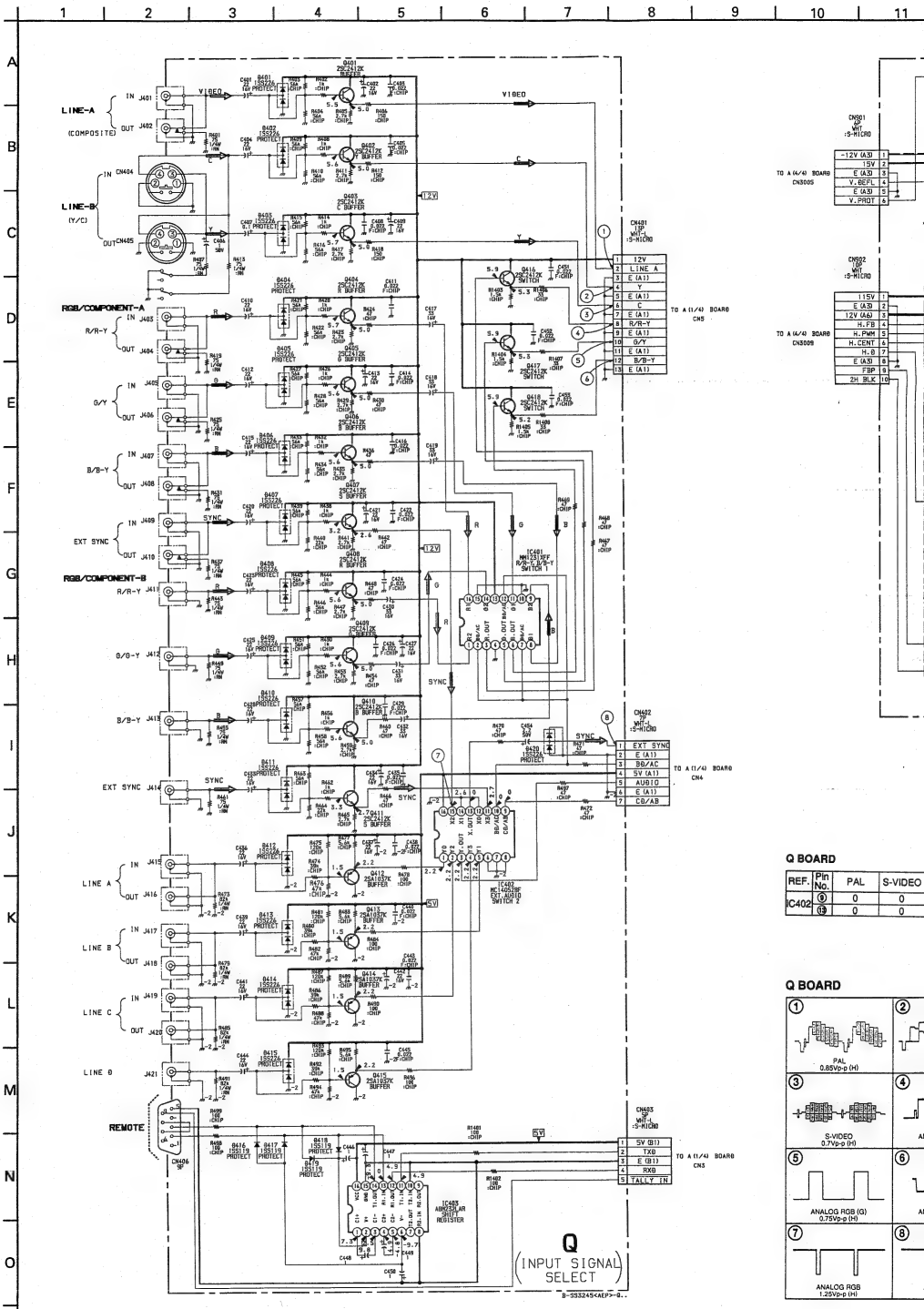


B BOARD IC712 CXD2000Q



B BOARD

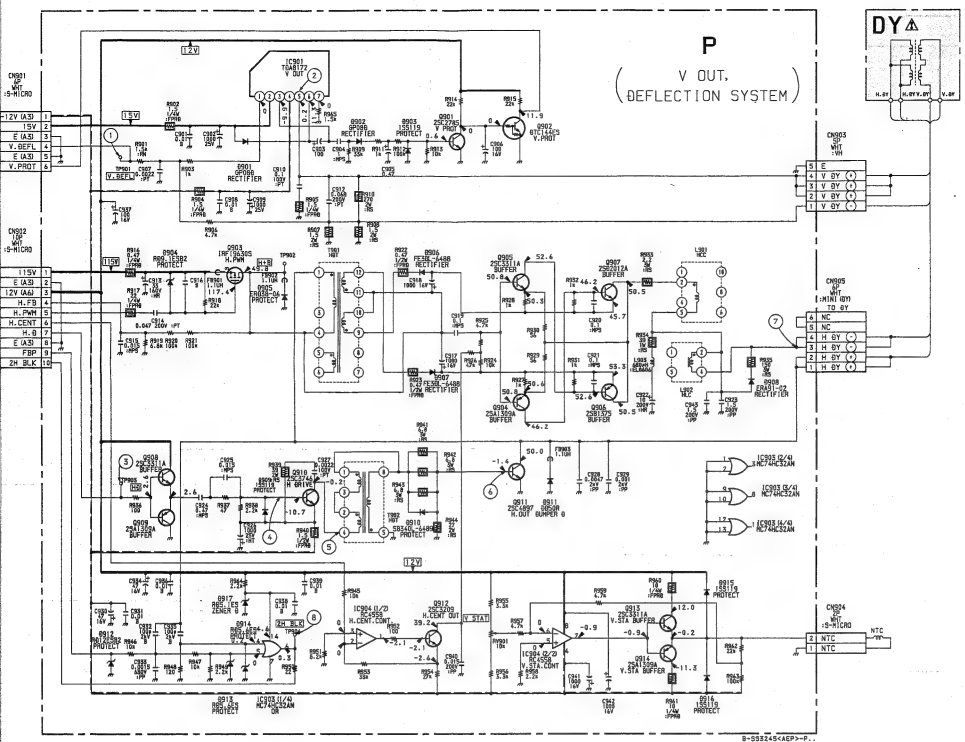




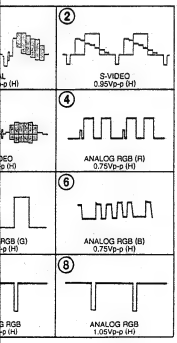
Q BOARD

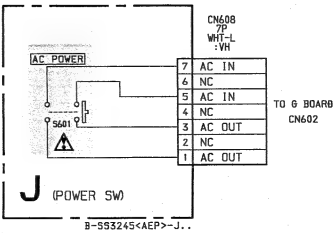
REF.	Pin No.	PAL	S-VIDEO
IC402	⑨	0	0
	⑲	0	0

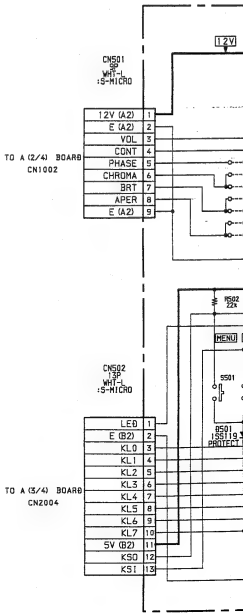
Q BOARD

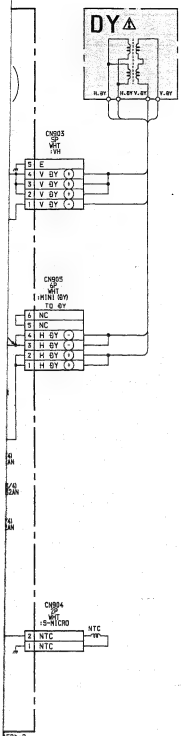


PAL	S-VIDEO	R.G.B
0	0	4.6
0	0	2.7

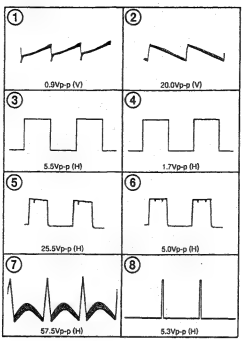




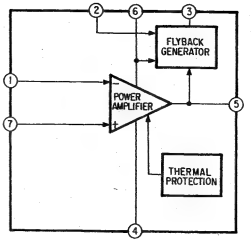


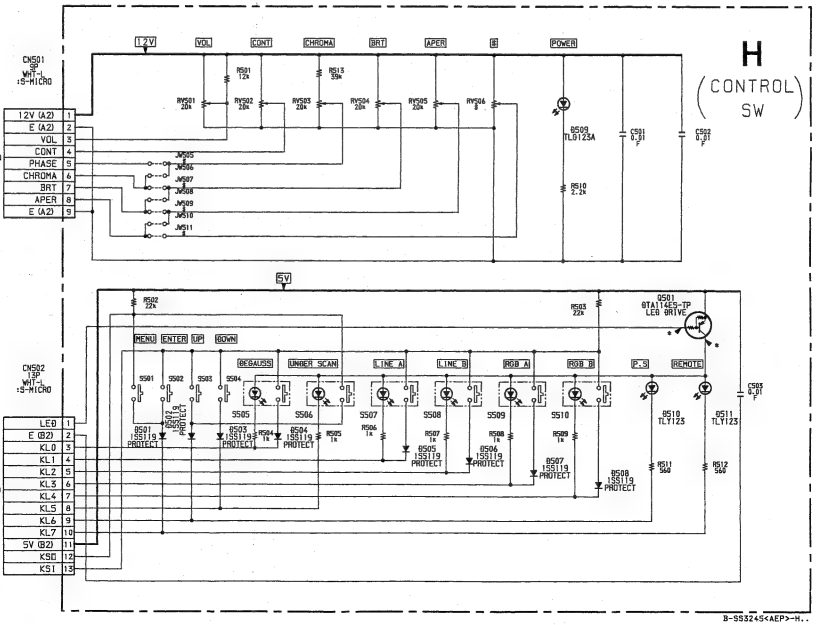


P BOARD



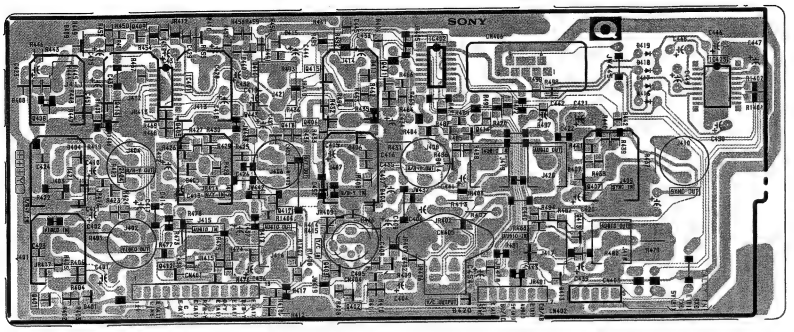
P BOARD IC901 TDA8172



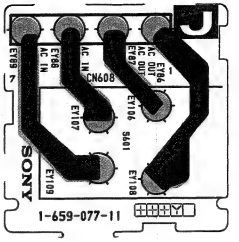


Q [INPUT SIGNAL, SELECT] **H** [CONTROL SW] **J** [POWER SW] **P** [V OUT, DEFLECTION SYSTEM]

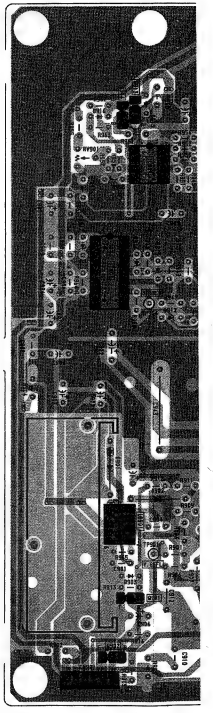
– Q BOARD –



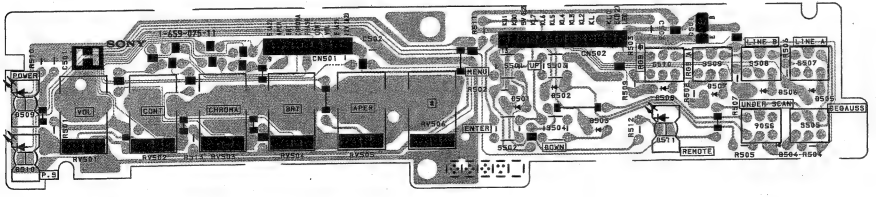
– J BOARD –



– P BOARD –



– H BOARD –

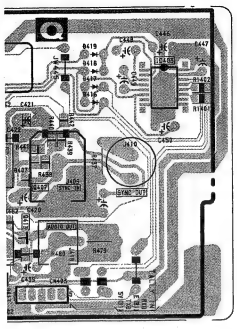


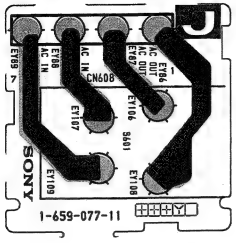
NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

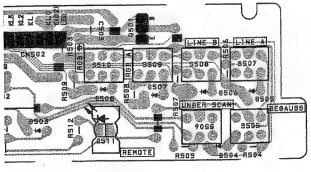
PVM-20M7MDE

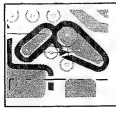
SW] **P** [V OUT, DEFLECTION SYSTEM]

– J BOARD –



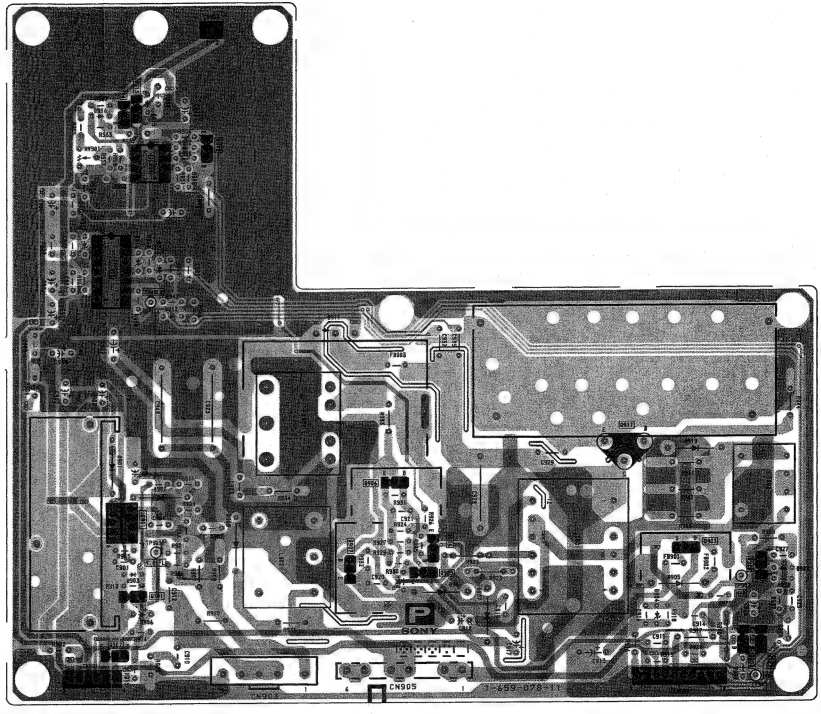






NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

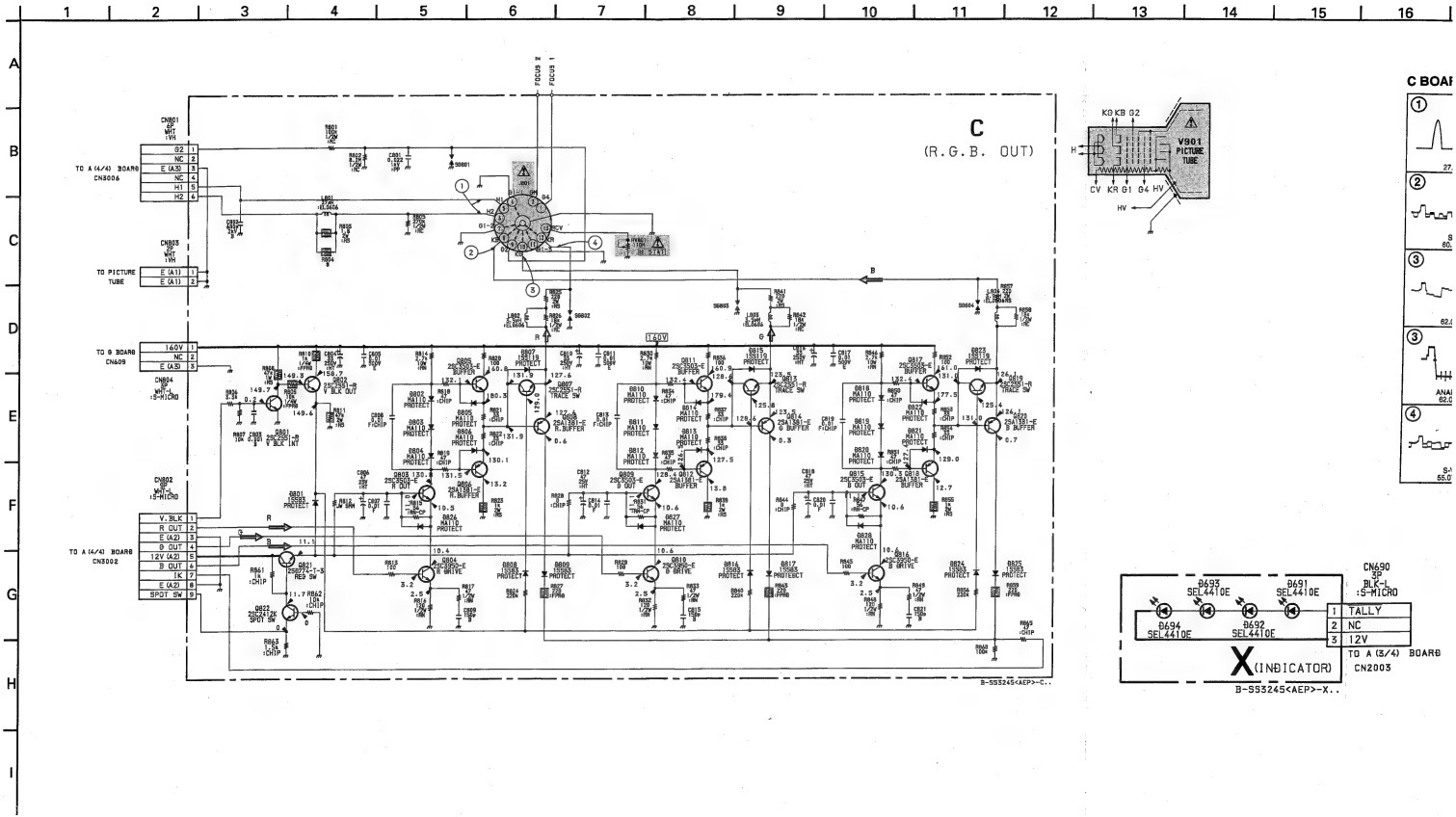
– P BOARD –

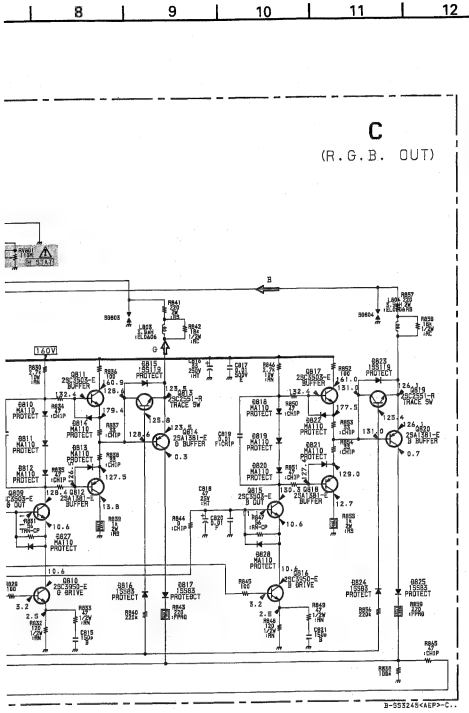


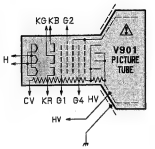
• ▭ : Pattern from the side which enables seeing.
• ▭ : Pattern of the rear side.

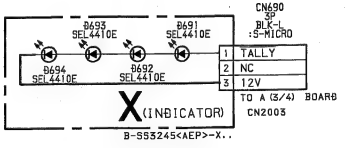
Schematic diagrams
C, X boards ➡

PVM-20M7MDE PVM-20M7

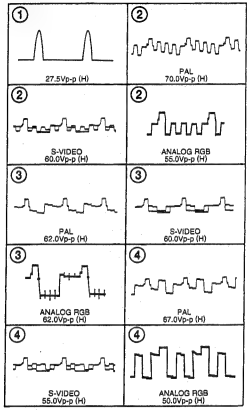








C BOARD

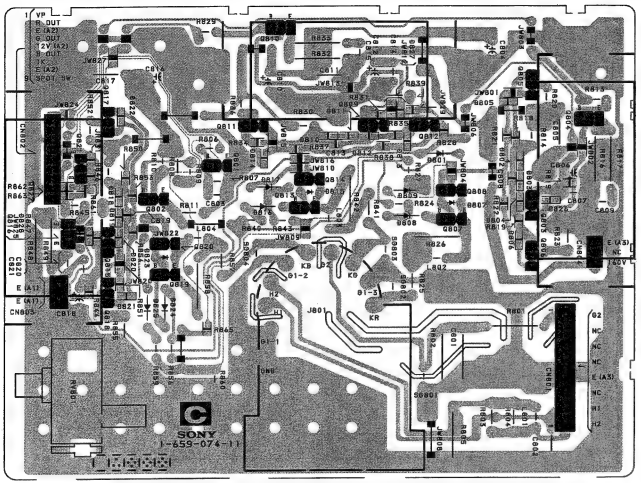


C BOARD

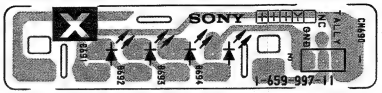
REF.		PAL	S-VIDEO	R.G.B
Q803	E	10.5	10.5	10.5
	C	130.8	128.3	131.2
	B	11.0	11.1	11.1
Q805	E	180.3	129.7	131.7
	C	160.8	160.8	160.8
	B	132.1	130.4	133.3
Q806	E	130.1	128.9	130.1
	C	13.2	13.5	13.2
	B	131.5	128.3	131.2
Q807	E	127.6	125.5	127.5
	C	131.9	129.4	131.5
	B	129.0	126.9	129.3
Q808	E	127.6	125.5	127.5
	C	0.6	0.1	0.2
	B	131.9	129.4	131.4
Q809	E	10.6	10.6	10.6
	C	128.4	125.3	125.3
	B	11.1	11.1	11.1
Q811	E	179.4	126.5	125.5
	C	160.9	160.8	160.9
	B	132.4	127.5	128.1
Q812	E	127.5	125.5	124.1
	C	13.8	13.8	13.8
	B	126.5	125.3	124.6
Q813	E	123.5	122.1	120.8
	C	128.6	126.1	125.1
	B	125.8	123.3	122.1
Q814	E	123.5	122.1	120.8
	C	0.3	0.1	0.5
	B	128.6	126.1	125.1
Q815	E	10.6	10.6	10.6
	C	130.3	125.9	130.3
	B	11.1	11.1	11.1
Q817	E	177.5	127.4	131.6
	C	161.0	160.9	161.0
	B	132.4	128.0	132.3
Q818	E	129.0	126.5	130.8
	C	12.7	13.4	13.0
	B	127.4	125.9	130.2
Q819	E	126.1	122.1	126.6
	C	131.0	127.0	131.3
	B	125.4	123.8	121.8
Q820	E	126.1	122.2	126.7
	C	0.7	0.3	0.3
	B	131.0	127.0	131.2

C [R.G.B OUT] X [INDICATOR]

– C BOARD –

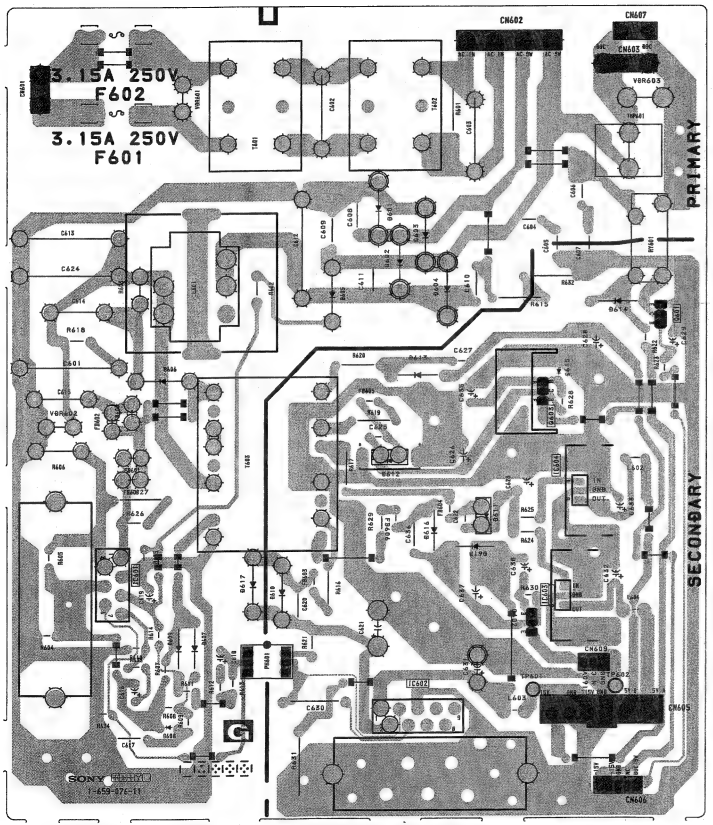


– X BOARD –

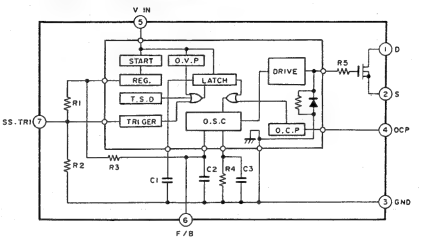


G [POWER SUPPLY]

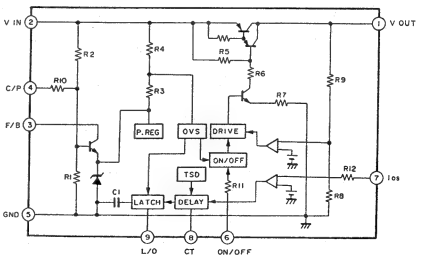
– G BOARD –

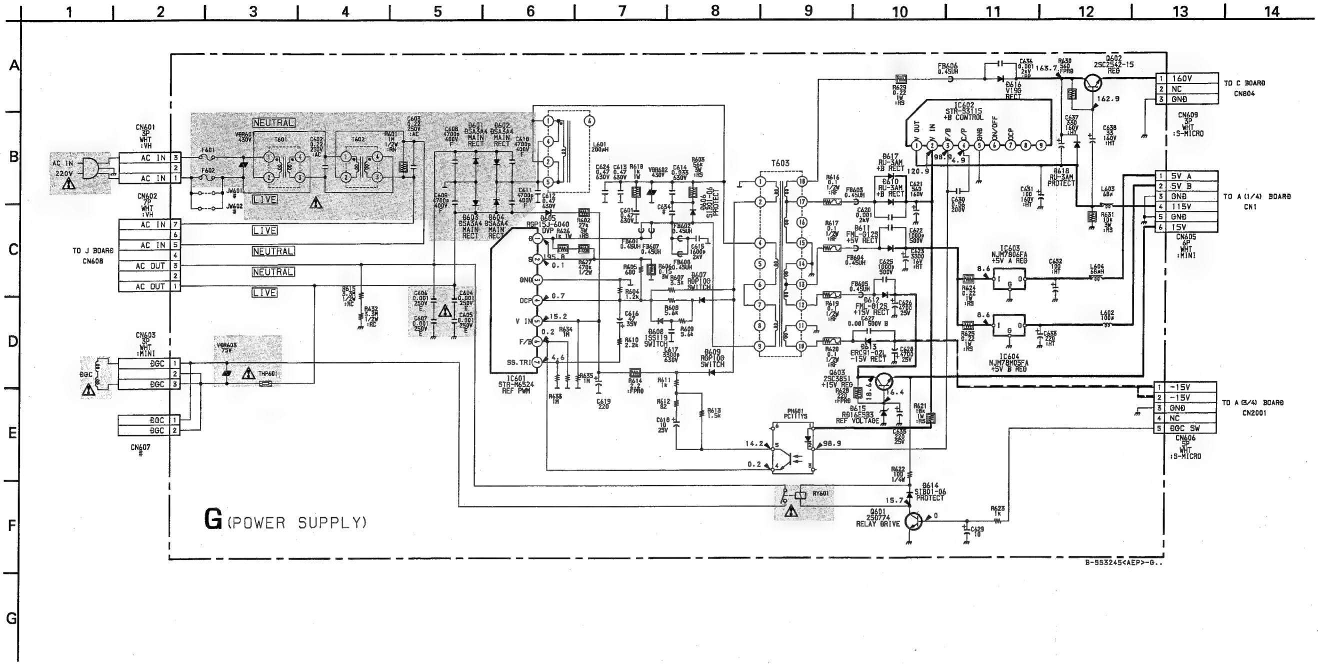


G BOARD IC601 STR-M6524



G BOARD IC602 STR-S3115




G (POWER SUPPLY)
AC IN 220V
CN601 3P WHT :VH
CN602 7P WHT :VH
TO J BOARD CN608
CN603 3P WHT :MINI
CN607
NEUTRAL
LIVE
AC OUT
DGC
IC601 STR-M6524 REF PWM
T603
IC602 STR-S3115 +B CONTROL
Q602 2SC2542-15 REG
IC603 NJM7805FA +5V A REG
IC604 NJM78M05FA +5V B REG
Q603 2SC3851 +15V REG
Q601 2SD774 RELAY DRIVE
RY601
PH601 PC111YS
TO C BOARD CN804
CN609 3P WHT :S-MICRO
TO A (1/4) BOARD CN1
CN605 6P WHT :MINI
TO A (3/4) BOARD CN2001
CN606 5P WHT :S-MICRO
160V
NC
GND
5V A
5V B
115V
15V
-15V
DGC SW
B-553245<AEP>-G..

6-5. SEMICONDUCTORS

AN5265

CXA1211M
CXA1521M
LM358M
LM393M
MM1111XF
MM1111XFF
MM1112XFF
NJM24C04EM8
NJM4558M
TL431CPS
µPC4558G2

CXA1470AM
CXA8021M

CXA1543M

CXA1554M
M62358FP-E1

CXA1739S

CXD1176Q

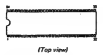
CXD1178Q

CXD2000Q
CXK48324Q

CXD2024AQ

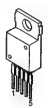
HD14053BFP
MC14053BF
MC14094BF
MC74HC158F
MC74HC4053F
MM1231XFFK
TC74HC4538AF

HD6473257P10-MF1E



MC14011BF
MC14013BF
MC14066BF
MC74HC00AF
MC74HC125AF
MC74HC157AF
MC74HC74AF
TC74AC04F
74AC04SJ

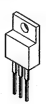
MC14538BFEL
LA6500-FA



MC74HC32AN

M51279FP

NJM78M05FA
µPC24M06HF

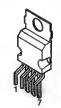


NJM7806FA
NJM7905FA
NJM7912FA

RC4558P
µPC4558C

STR-S3115

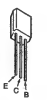
STR-M6523
TDA8172



µPD6451AGT-632-E2

DTA144EKA
DTC144EKA
2SA1037K
2SA1162-G
2SC1623-L5L6
2SC2412K
2SC3209LK
2SD774-3
2SD774-34

DTA114ESA
DTC144ESA

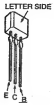


IRFI9630
IRFI9630GS
IRFI9630S
2SB1094-LK
2SB1375
2SC2542-15
2SC3746
2SC3851
2SD1134
2SD1134-C
2SD2012

2SA1091-O
2SA1091R
2SC2551-O
2SC2551R

2SA1175-HFE
2SA1309A-QTA
2SA2785-HFE
2SC3311A-QTA

LETTER SIDE



2SA1381
2SC3503-C
2SC3503-E

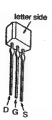
LETTER SIDE

2SA1741

2SC3950-D

2SC3950-E

letter side



2SC3997CA
2SC4897-02

MARKING SIDE VIEW

2SK94

DD50R

DSA3A4
V19GF1

DTZ11B
DTZ13C
MA110
RD10SB1-T1
RD12SB2
RD12SB2-T1
RD12SB3-T1
RD13SB2
RD13SB2-T1
RD5.1SB2-T1
RD5.1SB2-T2
RD5.1SB3-T1
RD5.6SB1-T1
RD6.2SB1-T1
1SV230-TPH3
1SV232-TPH3
1T363
1T363-01-T3A

EL1Z
GP08D
GP08DPKG23
RGP02-17EL-6433
RGP10G
RGP10GPKG23
1SS83
10E-2

ERA91-02
ERC91-02
ERD38-06
RGP15J-6040
RU-3AM
SIB01-06

FE3D
FE3DL-6488

FML-G12S

MA157
1SS226

RD10SB1
RD5.6SB2
RD5.6SB2-T1

RD12ESB2
RD16ESB2
RD16ESB3
RD5.1ESB2
RD5.6ESB2
RD9.1ESB2
1SS119

SB340

SB340L-6489

SEL4410E-D
TLG123A
TLY123

PC111YS

Schematic diagram

← G board

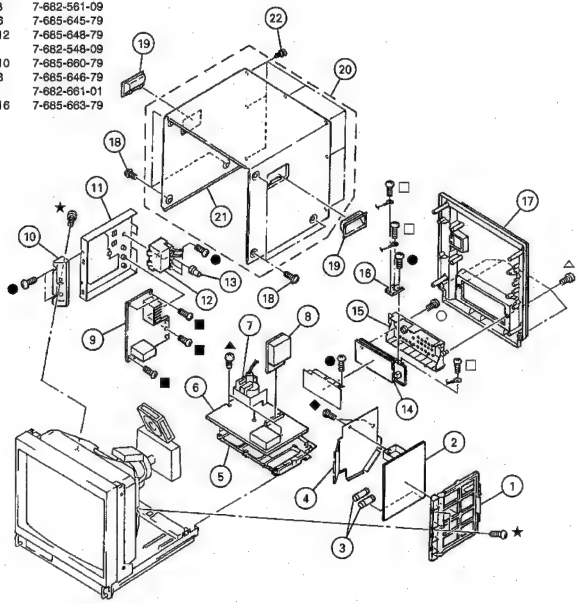
SECTION 7
EXPLODED VIEWS

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

7-1. CHASSIS

●	+BVTT 4X8	7-682-561-09
■	+BVTP 3X8	7-685-645-79
▲	+BVTP 3X12	7-685-648-79
◆	+P 3X8	7-682-548-09
★	+BVTP 4X10	7-685-660-79
○	+BVTP 3X8	7-685-646-79
□	+PS 4X8	7-682-661-01
△	+BVTP 4X16	7-685-663-79



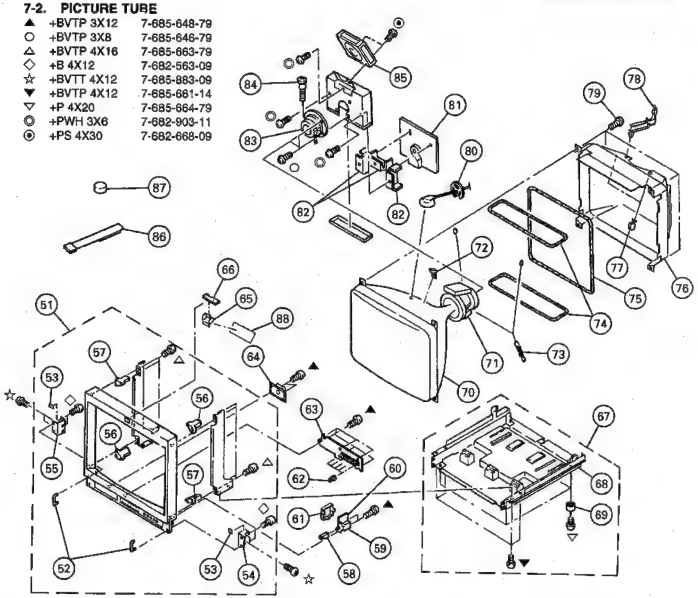
REF. NO.	PART NO.	DESCRIPTION	REMARK
1	*4-043-689-01	BRACKET, G	
2	*A-1316-245-A	G BOARD, COMPLETE	
3	⚠ 1-576-230-31	FUSE (F.B.C.) (3.15A/250V)	
4	*X-4033-346-1	HEAT SINK ASSY (G)	
5	*4-043-690-01	BRACKET, MAIN	
6	*A-1297-663-A	A BOARD, COMPLETE	
⚠	1-453-204-11	TRANSFORMER ASSY, FLYBACK	
8	*A-1135-853-A	B BOARD, COMPLETE	
9	*A-1195-102-A	P BOARD, COMPLETE	
10	*4-046-391-01	BRACKET, FITTING	
11	*4-052-203-01	BRACKET, P PC BOARD	

REF. NO.	PART NO.	DESCRIPTION	REMARK
12	⚠ 1-453-106-11	DC BLOCK, HIGH VOLTAGE	
13	4-373-137-01	CAP (Z), RUBBER	
14	1-694-086-11	TERMINAL BOARD ASSY, I/O (Q BOARD)	
15	4-043-688-51	PANEL, CONNECTOR	
16	*4-043-678-01	TERMINAL, GROUND	
17	4-043-677-01	COVER, REAR	
18	4-847-802-11	SCREW (OS), CASE, CLAW	
19	4-043-825-11	HANDLE	
20	A-1005-293-B	COVER COMPLETE ASSY, TOP	21
21	4-043-675-31	COVER, TOP	
22	4-391-825-01	RIVET, NYLON	

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

7-2. PICTURE TUBE

▲	+BVTP 3X12	7-685-648-79
○	+BVTP 3X8	7-685-646-79
△	+BVTP 4X16	7-685-663-79
◇	+B 4X12	7-682-563-09
☆	+BVTT 4X12	7-685-883-09
▼	+BVTP 4X12	7-685-681-14
▽	+P 4X20	7-685-664-79
◎	+PWH 3X6	7-682-903-11
⊙	+PS 4X30	7-682-668-09



REF. NO.	PART NO.	DESCRIPTION	REMARK
51	X-4033-347-1	BEZEL ASSY	52-57
52	4-052-200-11	HANDLE, PROTECTOR	
53	*4-043-797-01	PLATE, BLIND	
54	*4-043-670-01	REINFORCEMENT (R), HANDLE	
55	*4-043-669-01	REINFORCEMENT (L), HANDLE	
56	*4-043-672-01	BRACKET (A), PICTURE TUBE	
57	*4-043-673-01	BRACKET (B), PICTURE TUBE	
58	4-043-683-01	BUTTOM, POWER SWITCH	
59	⚠1-692-923-11	SWITCH, PUSH (A.C POWER)	
60	*A-1388-181-A	J BOARD, COMPLETE	
61	4-043-681-01	COVER, AC SWITCH	
62	X-4030-162-3	KNOB ASSY, CONTROL	
63	*A-1372-183-A	H BOARD, COMPLETE	
64	1-544-063-12	SPEAKER	
65	*4-043-671-01	REFLECTOR, LED	
66	*A-1390-586-A	X BOARD, COMPLETE	
67	*X-4032-770-1	CABINET ASSY, BOTTOM	68,69
68	*X-4031-740-1	CABINET, BOTTOM	
69	4-901-947-01	LEG	

REF. NO.	PART NO.	DESCRIPTION	REMARK
70	⚠ 8-736-379-05	PICTURE TUBE 20M7T1 (TVM)	
71	⚠ A-843-432-51	DY Y20SPHZ-M5	
72	4-040-897-01	SPACER, DY	
73	4-303-774-XX	SPRING	
74	⚠ 1-420-905-11	COIL, DEMAGNETIZATION	
75	⚠ 1-421-697-11	COIL, LANDING CORRECTION	
76	*X-4381-914-8	SHIELD ASSY, PICTURE TUBE	
77	*4-395-824-01	HOLDER, DEGAUSSING COIL	
78	*4-387-284-01	HOLDER, LEAD	
79	4-365-808-01	SCREW (5), TAPPING	
80	*3-704-372-01	HOLDER, HV CABLE	
81	*A-1335-067-A	C BOARD, COMPLETE	
82	*X-4033-345-1	ASSY, HEAT SINK (C)	
83	⚠ X-453-002-11	SHIELD (M)	
84	4-041-627-01	SCREW (M4X20), HEXAGON HEAD	
85	1-541-469-11	FAN, DC (WITH SENSOR)	
86	X-4030-584-1	PERMALLOY ASSY, CORRECTION	
87	1-452-032-00	MAGNET,DISK	
88	4-044-606-01	CUSHION, TALLY	

SECTION 8
ELECTRICAL PARTS LIST

B

NOTE:

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS
- All resistors are in ohms
- F : nonflammable

When indicating parts by reference number, please include the board name.

- CAPACITORS
  PF : µµ F
- There are some cases the reference number on one board overlaps on the other board. Therefore, when ordering parts by the reference number, please include the board name.

REF. NO.	PART NO.	DESCRIPTION		REMARK
	* A-1135-853-A	B BOARD, COMPLETE		
		<CAPACITOR>		
C704	1-126-391-11	ELECT CHIP 47µF	20%	6.3V
C705	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C706	1-126-394-11	ELECT CHIP 10µF	20%	16V
C707	1-164-004-11	CERAMIC CHIP 0.1µF	10%	25V
C708	1-163-038-91	CERAMIC CHIP 0.1µF		25V
C709	1-164-232-11	CERAMIC CHIP 0.01µF	10%	50V
C710	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C711	1-163-038-91	CERAMIC CHIP 0.1µF		25V
C712	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C716	1-126-394-11	ELECT CHIP 10µF	20%	16V
C717	1-164-004-11	CERAMIC CHIP 0.1µF	10%	25V
C718	1-163-038-91	CERAMIC CHIP 0.1µF		25V
C719	1-164-232-11	CERAMIC CHIP 0.01µF	10%	50V
C720	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C721	1-163-038-91	CERAMIC CHIP 0.1µF		25V
C722	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C723	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C724	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C725	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C726	1-126-391-11	ELECT CHIP 47µF	20%	6.3V
C727	1-126-391-11	ELECT CHIP 47µF	20%	6.3V
C728	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C729	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C730	1-164-004-11	CERAMIC CHIP 0.1µF	10%	25V
C731	1-164-004-11	CERAMIC CHIP 0.1µF	10%	25V
C732	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C733	1-126-391-11	ELECT CHIP 47µF	20%	6.3V
C734	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C735	1-126-391-11	ELECT CHIP 47µF	20%	6.3V
C736	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C737	1-126-391-11	ELECT CHIP 47µF	20%	6.3V
C738	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C739	1-107-553-11	FILM CHIP 0.0056µF	5%	16V
C740	1-104-558-11	FILM CHIP 0.039µF	5%	16V
C741	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C742	1-164-232-11	CERAMIC CHIP 0.01µF	10%	50V
C743	1-126-191-11	ELECT 0.47µF	20%	50V
C744	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C745	1-126-193-11	ELECT 1µF	20%	50V
C746	1-163-227-11	CERAMIC CHIP 10pF	0.5%	50V
C747	1-163-251-11	CERAMIC CHIP 100pF	5%	50V
C748	1-163-251-11	CERAMIC CHIP 100pF	5%	50V
C749	1-163-251-11	CERAMIC CHIP 100pF	5%	50V
C751	1-126-394-11	ELECT CHIP 10µF	20%	16V
C752	1-164-004-11	CERAMIC CHIP 0.1µF	10%	25V
C753	1-163-038-91	CERAMIC CHIP 0.1µF		25V
C754	1-164-232-11	CERAMIC CHIP 0.01µF	10%	50V
C755	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C756	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C757	1-126-391-11	ELECT CHIP 47µF	20%	6.3V
C758	1-126-391-11	ELECT CHIP 47µF	20%	6.3V
C759	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C760	1-126-391-11	ELECT CHIP 47µF	20%	6.3V
C761	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C762	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C763	1-126-391-11	ELECT CHIP 47µF	20%	6.3V
C764	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C765	1-126-391-11	ELECT CHIP 47µF	20%	6.3V
C766	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C767	1-126-391-11	ELECT CHIP 47µF	20%	6.3V
C768	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C769	1-126-391-11	ELECT CHIP 47µF	20%	6.3V
C770	1-126-391-11	ELECT CHIP 47µF	20%	6.3V
C771	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C772	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C773	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C774	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C775	1-163-251-11	CERAMIC CHIP 100pF	5%	50V
C776	1-163-251-11	CERAMIC CHIP 100pF	5%	50V
C777	1-163-251-11	CERAMIC CHIP 100pF	5%	50V
C778	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C779	1-126-206-11	ELECT 100µF	20%	6.3V
C780	1-126-206-11	ELECT 100µF	20%	6.3V
C781	1-163-275-11	CERAMIC CHIP 0.001µF	5%	50V
C782	1-163-125-00	CERAMIC CHIP 220pF	5%	50V
		<CONNECTOR>		
CN701	1-573-300-11	CONNECTOR, BOARD TO BOARD 18P		
CN702	1-573-300-11	CONNECTOR, BOARD TO BOARD 18P		
		<DIODE>		
D701	8-719-159-12	DIODE RD5.1SB2-T2		
D704	8-719-002-81	DIODE 1T363		
		<FILTER>		
FL705	1-239-538-21	FILTER, LOW PASS		
FL706	1-239-538-21	FILTER, LOW PASS		
FL707	1-239-538-21	FILTER, LOW PASS		
FL708	1-239-537-21	FILTER, LOW PASS		
FL709	1-239-537-21	FILTER, LOW PASS		
FL710	1-239-537-21	FILTER, LOW PASS		
FL711	1-233-313-11	FILTER, CHIP EMI		
FL712	1-233-313-11	FILTER, CHIP EMI		
FL713	1-233-313-11	FILTER, CHIP EMI		
FL714	1-233-313-11	FILTER, CHIP EMI		
FL715	1-233-313-11	FILTER, CHIP EMI		
FL716	1-233-316-21	FILTER, CHIP EMI		

B

REF. NO.	PART NO.	DESCRIPTION	REMARK
FL717	1-233-316-21	FILTER, CHIP EMI	
FL718	1-233-316-21	FILTER, CHIP EMI	
FL719	1-233-316-21	FILTER, CHIP EMI	
FL720	1-233-316-21	FILTER, CHIP EMI	
FL721	1-233-316-21	FILTER, CHIP EMI	
FL722	1-233-316-21	FILTER, CHIP EMI	
FL723	1-233-316-21	FILTER, CHIP EMI	
FL724	1-233-316-21	FILTER, CHIP EMI	
FL725	1-233-316-21	FILTER, CHIP EMI	
FL726	1-233-316-21	FILTER, CHIP EMI	
		<IC>	
IC701	8-752-337-04	IC CXD1176Q	
IC702	8-752-337-04	IC CXD1176Q	
IC703	8-752-337-04	IC CXD1176Q	
IC704	8-759-073-52	IC TC74AC04F-EL	
IC708	8-752-340-52	IC CXK48324Q	
IC709	8-752-340-52	IC CXK48324Q	
IC710	8-752-340-52	IC CXK48324Q	
IC711	8-752-338-46	IC CXD1178Q	
IC712	8-752-328-71	IC CXD2000Q	
IC713	8-759-032-23	IC MC74HC74AF-T2	
IC714	8-759-011-65	IC MC74HC4053F	
IC715	8-759-929-26	IC TL431CPS	
IC716	8-759-032-43	IC MC74HC157AF-T2	
IC718	8-759-008-45	IC MC74HC4538F	
		<COIL>	
L703	1-410-192-51	INDUCTOR CHIP 1µH	
L704	1-410-200-31	INDUCTOR CHIP 4.7µH	
L705	1-410-200-31	INDUCTOR CHIP 4.7µH	
L706	1-410-200-31	INDUCTOR CHIP 4.7µH	
		<TRANSISTOR>	
Q701	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q702	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q703	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q704	8-729-216-22	TRANSISTOR 2SA1162-G	
Q705	8-729-216-22	TRANSISTOR 2SA1162-G	
Q706	8-729-216-22	TRANSISTOR 2SA1162-G	
Q707	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q708	8-729-216-22	TRANSISTOR 2SA1162-G	
Q709	8-729-216-22	TRANSISTOR 2SA1162-G	
Q710	8-729-216-22	TRANSISTOR 2SA1162-G	
Q711	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q712	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
		<RESISTOR>	
R701	1-216-031-00	METAL GLAZE 180 5% 1/10W	
R702	1-216-657-11	METAL CHIP 1.8K 0.50% 1/10W	
R703	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R704	1-216-039-00	METAL GLAZE 390 5% 1/10W	
R705	1-216-022-00	METAL GLAZE 75 5% 1/10W	
R706	1-216-673-11	METAL CHIP 8.2K 0.50% 1/10W	
R707	1-208-784-11	METAL CHIP 1.2K 0.50% 1/10W	
R708	1-216-633-11	METAL CHIP 180 0.50% 1/10W	
R709	1-216-657-11	METAL CHIP 1.8K 0.50% 1/10W	
R710	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R711	1-216-039-00	METAL GLAZE 390 5% 1/10W	
R712	1-216-022-00	METAL GLAZE 75 5% 1/10W	
R713	1-216-667-11	METAL CHIP 4.7K 0.50% 1/10W	
R714	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R715	1-216-633-11	METAL CHIP 180 0.50% 1/10W	
R716	1-216-657-11	METAL CHIP 1.8K 0.50% 1/10W	
R717	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R718	1-216-039-00	METAL GLAZE 390 5% 1/10W	
R719	1-216-022-00	METAL GLAZE 75 5% 1/10W	
R720	1-216-667-11	METAL CHIP 4.7K 0.50% 1/10W	
R722	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R723	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R730	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R731	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R732	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R733	1-216-663-11	METAL CHIP 3.3K 0.50% 1/10W	
R734	1-216-659-11	METAL CHIP 2.2K 0.50% 1/10W	
R735	1-216-663-11	METAL CHIP 3.3K 0.50% 1/10W	
R736	1-216-635-11	METAL CHIP 220 0.50% 1/10W	
R738	1-216-663-11	METAL CHIP 3.3K 0.50% 1/10W	
R739	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R740	1-216-039-00	METAL GLAZE 390 5% 1/10W	
R741	1-216-635-11	METAL CHIP 220 0.50% 1/10W	
R742	1-216-639-11	METAL CHIP 330 0.50% 1/10W	
R743	1-216-663-11	METAL CHIP 3.3K 0.50% 1/10W	
R744	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R745	1-216-039-00	METAL GLAZE 390 5% 1/10W	
R746	1-216-635-11	METAL CHIP 220 0.50% 1/10W	
R747	1-216-639-11	METAL CHIP 330 0.50% 1/10W	
R748	1-216-663-11	METAL CHIP 3.3K 0.50% 1/10W	
R749	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R750	1-216-039-00	METAL GLAZE 390 5% 1/10W	
R752	1-216-049-91	METAL GLAZE 1K 5% 1/10W	
R753	1-216-009-00	METAL GLAZE 22 5% 1/10W	
R756	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R757	1-216-009-00	METAL GLAZE 22 5% 1/10W	
R758	1-216-009-00	METAL GLAZE 22 5% 1/10W	
R759	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R760	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R761	1-216-051-00	METAL GLAZE 1.2K 5% 1/10W	
R762	1-216-053-00	METAL GLAZE 1.5K 5% 1/10W	
R763	1-216-025-91	METAL GLAZE 100 5% 1/10W	
R764	1-216-651-11	METAL CHIP 1K 0.50% 1/10W	
R765	1-216-119-00	METAL GLAZE 820K 5% 1/10W	
R766	1-216-051-00	METAL GLAZE 1.2K 5% 1/10W	
R767	1-216-097-91	METAL GLAZE 100K 5% 1/10W	
R768	1-216-045-00	METAL GLAZE 680 5% 1/10W	
R769	1-216-097-91	METAL GLAZE 100K 5% 1/10W	
R770	1-216-105-91	METAL GLAZE 220K 5% 1/10W	
R771	1-216-049-91	METAL GLAZE 1K 5% 1/10W	
R773	1-216-047-91	METAL GLAZE 820 5% 1/10W	
R774	1-216-639-11	METAL CHIP 330 0.50% 1/10W	
R775	1-216-047-91	METAL GLAZE 820 5% 1/10W	
R776	1-216-047-91	METAL GLAZE 820 5% 1/10W	
R777	1-216-097-91	METAL GLAZE 100K 5% 1/10W	
R778	1-216-049-91	METAL GLAZE 1K 5% 1/10W	
R779	1-216-049-91	METAL GLAZE 1K 5% 1/10W	
R780	1-216-049-91	METAL GLAZE 1K 5% 1/10W	
R781	1-216-049-91	METAL GLAZE 1K 5% 1/10W	
R782	1-216-659-11	METAL CHIP 2.2K 0.50% 1/10W	
R783	1-216-661-11	METAL CHIP 2.7K 0.50% 1/10W	
R784	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R785	1-216-659-11	METAL CHIP 2.2K 0.50% 1/10W	
R786	1-216-661-11	METAL CHIP 2.7K 0.50% 1/10W	
R787	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R788	1-208-641-11	METAL CHIP 390 0.50% 1/10W	
R789	1-216-645-11	METAL CHIP 560 0.50% 1/10W	
R790	1-208-641-11	METAL CHIP 390 0.50% 1/10W	
R791	1-216-645-11	METAL CHIP 560 0.50% 1/10W	
R792	1-208-641-11	METAL CHIP 390 0.50% 1/10W	
R793	1-216-645-11	METAL CHIP 560 0.50% 1/10W	
R794	1-208-824-11	METAL CHIP 56K 0.50% 1/10W	
R795	1-208-810-11	METAL CHIP 15K 0.50% 1/10W	

P

REF. NO.	PART NO.	DESCRIPTION			REMARK
	* A-1195-102-A	P BOARD, COMPLETE			
		<CAPACITOR>			
C901	1-102-129-00	CERAMIC	0.01µF	10%	50V
C902	1-126-942-61	ELECT	1000µF	20%	25V
C903	1-126-968-11	ELECT	100µF	20%	50V
C904	1-136-177-00	FILM	1µF	5%	50V
C905	1-124-902-00	ELECT	0.47µF	20%	50V
C906	1-126-933-11	ELECT	100µF	20%	16V
C907	1-130-728-00	FILM	0.0022µF	5%	50V
C908	1-102-129-00	CERAMIC	0.01µF	10%	50V
C909	1-126-942-61	ELECT	1000µF	20%	25V
C910	1-106-220-00	MYLAR	0.1µF	10%	100V
C912	1-106-387-00	MYLAR	0.068µF	10%	200V
C913	1-123-024-21	ELECT	33µF		160V
C914	1-106-383-00	MYLAR	0.047µF	10%	200V
C915	1-136-155-00	FILM	0.015µF	5%	50V
C917	1-126-952-11	ELECT	1000µF	20%	16V
C918	1-126-952-11	ELECT	1000µF	20%	16V
C919	1-136-165-00	FILM	0.1µF	5%	50V
C920	1-136-165-00	FILM	0.1µF	5%	50V
C921	1-136-165-00	FILM	0.1µF	5%	50V
C922	1-104-966-11	ELECT	10µF	0	200V
C923	1-136-541-11	FILM	1.5µF	5%	200V
C924	1-136-173-00	FILM	0.47µF	5%	50V
C925	1-136-155-00	FILM	0.015µF	5%	50V
C926	1-126-105-11	ELECT	1000µF	30%	25V
C927	1-106-351-00	MYLAR	0.0022µF	10%	100V
C928	1-136-750-11	FILM	0.0047µF	3%	2KV
C929	1-161-754-00	CERAMIC	0.001µF	10%	2KV
C930	1-126-967-11	ELECT	47µF	20%	16V
C931	1-102-129-00	CERAMIC	0.01µF	10%	50V
C932	1-162-558-11	CERAMIC	100pF	10%	2KV
C933	1-136-553-11	FILM	0.0015µF	5%	630V
C934	1-126-967-11	ELECT	47µF	20%	16V
C935	1-162-558-11	CERAMIC	100pF	10%	2KV
C936	1-102-129-00	CERAMIC	0.01µF	10%	50V
C937	1-126-933-11	ELECT	100µF	20%	16V
C938	1-102-129-00	CERAMIC	0.01µF	10%	50V
C939	1-102-129-00	CERAMIC	0.01µF	10%	50V
C940	1-129-716-00	FILM	0.015µF	10%	200V
C941	1-126-952-11	ELECT	1000µF	20%	16V
C942	1-126-952-11	ELECT	1000µF	20%	16V
C943	1-136-541-11	FILM	1.5µF	5%	200V
		<CONNECTOR>			
CN901	* 1-564-509-11	PLUG, CONNECTOR 6P			
CN902	* 1-564-513-11	PLUG, CONNECTOR 10P			
CN903	* 1-573-986-11	PIN, CONNECTOR (PC BOARD) 5P			
CN904	1-564-505-11	PLUG, CONNECTOR 2P			
CN905	* 1-568-536-11	PLUG (MINIATURE DY) 6P			
		<DIODE>			
D903	8-719-911-19	DIODE 1SS119-25			
D904	8-719-110-13	DIODE RD9.1ESB2			
D905	8-719-939-07	DIODE ERD38-06			
D906	8-719-988-11	DIODE FE3D			
D907	8-719-988-11	DIODE FE3D			
D908	8-719-951-30	DIODE ERA91-02			
D909	8-719-911-19	DIODE 1SS119-25			
D910	8-719-975-77	DIODE SB340			
D911	8-719-970-89	DIODE DD50R			
	* 4-043-154-01	HOLDER, IC: D911			
	4-363-414-00	SPACER, MICA: D911			

REF. NO.	PART NO.	DESCRIPTION			REMARK
	7-685-647-79	SCREW +BVTP 3X10 TYPE2 IT-3: D911			
D912	8-719-110-31	DIODE RD12ESB2			
D913	8-719-109-89	DIODE RD5.6ESB2			
D914	8-719-109-89	DIODE RD5.6ESB2			
D915	8-719-911-19	DIODE 1SS119-25			
D916	8-719-911-19	DIODE 1SS119-25			
D917	8-719-109-85	DIODE RD5.1ESB2			
		<FERRITE BEAD>			
FB901	1-410-397-21	FERRITE BEAD INDUCTOR 1.1µH			
FB902	1-410-397-21	FERRITE BEAD INDUCTOR 1.1µH			
FB903	1-410-397-21	FERRITE BEAD INDUCTOR 1.1µH			
		<IC>			
IC901	8-759-980-58	IC TDA8172			
	7-682-949-01	SCREW +PSW 3X10; IC901			
IC903	8-759-916-25	IC SN74HC32AN			
	7-682-949-01	SCREW +PSW 3X10; IC903			
IC904	8-759-145-58	IC µPC4558C			
		<COIL>			
L901	1-406-818-11	COIL, CHOKE 2.2mH			
L902	1-406-857-11	COIL,HORIZONTAL LINEARITY(HLC)			
L903	1-410-117-31	INDUCTOR 0.68mH			
		<TRANSISTOR>			
Q901	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q902	8-729-030-03	TRANSISTOR DTC144ESA-TP			
Q903	8-729-015-28	TRANSISTOR IRFP9630GS			
Q904	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q905	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q906	8-729-141-83	TRANSISTOR 2SB1094-LK			
	7-682-949-01	SCREW +PSW 3X10; Q906			
Q907	8-729-209-15	TRANSISTOR 2SD2012			
	7-682-948-01	SCREW +PSW 3X8; Q907			
Q908	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q909	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q910	8-729-820-73	TRANSISTOR 2SC3746			
Q911	8-729-821-07	TRANSISTOR 2SC3997CA			
	4-363-414-00	SPACER, MICA			
	7-682-950-01	SCREW +PSW 3X12			
Q912	8-729-140-96	TRANSISTOR 2SD774-34			
Q913	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q914	8-729-119-76	TRANSISTOR 2SA1175-HFE			
		<RESISTOR>			
R901	1-215-425-00	METAL	1.5K	1%	1/4W
R902	1-249-449-11	CARBON	1.5	5%	1/4W F
R903	1-249-417-11	CARBON	1K	5%	1/4W
R904	1-249-449-11	CARBON	1.5	5%	1/4W F
R905	1-249-449-11	CARBON	1.5	5%	1/4W F
R906	1-249-425-11	CARBON	4.7K	5%	1/4W
R907	1-216-371-00	METAL OXIDE	1.5	5%	2W F
R908	1-216-371-00	METAL OXIDE	1.5	5%	2W F
R909	1-249-435-11	CARBON	33K	5%	1/4W
R910	1-216-453-00	METAL OXIDE	270	5%	2W F
R911	1-249-417-11	CARBON	1K	5%	1/4W
R912	1-249-441-11	CARBON	100K	5%	1/4W
R913	1-249-429-11	CARBON	10K	5%	1/4W
R914	1-247-853-91	CARBON	22K	5%	1/4W
R915	1-247-863-91	CARBON	22K	5%	1/4W
R916	1-249-443-11	CARBON	0.47	5%	1/4W F
R917	1-247-692-11	CARBON	22	5%	1/4W F
R918	1-247-863-91	CARBON	22K	5%	1/4W
R919	1-249-427-11	CARBON	6.8K	5%	1/4W
R920	1-249-441-11	CARBON	100K	5%	1/4W

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REF. NO.	PART NO.	DESCRIPTION				REMARK
R921	1-249-441-11	CARBON	100K	5%	1/4W	
R922	1-249-470-11	CARBON	0.47	5%	1/2W	F
R923	1-249-470-11	CARBON	0.47	5%	1/2W	F
R924	1-249-429-11	CARBON	10K	5%	1/4W	
R925	1-249-425-11	CARBON	4.7K	5%	1/4W	
R926	1-249-437-11	CARBON	47K	5%	1/4W	
R927	1-249-417-11	CARBON	1K	5%	1/4W	
R928	1-249-417-11	CARBON	1K	5%	1/4W	
R929	1-249-402-11	CARBON	56	5%	1/4W	
R930	1-249-402-11	CARBON	56	5%	1/4W	
R931	1-249-417-11	CARBON	1K	5%	1/4W	
R932	1-249-417-11	CARBON	1K	5%	1/4W	
R933	1-216-393-00	METAL OXIDE	2.2	5%	3W	F
R934	1-216-424-11	METAL OXIDE	39	5%	1W	F
R935	1-215-912-11	METAL OXIDE	150	5%	3W	F
R936	1-247-807-31	CARBON	100	5%	1/4W	
R937	1-249-401-11	CARBON	47	5%	1/4W	
R938	1-249-421-11	CARBON	2.2K	5%	1/4W	
R939	1-216-448-11	METAL OXIDE	39	5%	2W	F
R940	1-249-476-11	CARBON	1.5	5%	1/2W	F
R941	1-216-399-00	METAL OXIDE	6.8	5%	3W	F
R942	1-216-399-00	METAL OXIDE	6.8	5%	3W	F
R943	1-216-399-00	METAL OXIDE	6.8	5%	3W	F
R944	1-216-447-00	METAL OXIDE	27	5%	2W	F
R945	1-249-429-11	CARBON	10K	5%	1/4W	
R946	1-249-429-11	CARBON	10K	5%	1/4W	
R947	1-249-429-11	CARBON	10K	5%	1/4W	
R948	1-249-406-11	CARBON	120	5%	1/4W	
R949	1-249-421-11	CARBON	2.2K	5%	1/4W	
R950	1-247-791-91	CARBON	22	5%	1/4W	
R951	1-249-428-11	CARBON	8.2K	5%	1/4W	
R952	1-247-807-31	CARBON	100	5%	1/4W	
R953	1-249-435-11	CARBON	33K	5%	1/4W	
R954	1-249-434-11	CARBON	27K	5%	1/4W	
R955	1-249-423-11	CARBON	3.3K	5%	1/4W	
R956	1-249-423-11	CARBON	3.3K	5%	1/4W	
R957	1-249-425-11	CARBON	4.7K	5%	1/4W	
R958	1-249-421-11	CARBON	2.2K	5%	1/4W	
R959	1-249-425-11	CARBON	4.7K	5%	1/4W	
R960	1-247-688-11	CARBON	10	5%	1/4W	F
R961	1-247-688-11	CARBON	10	5%	1/4W	F
R962	1-247-863-91	CARBON	22K	5%	1/4W	
R963	1-249-441-11	CARBON	100K	5%	1/4W	
R964	1-249-421-11	CARBON	2.2K	5%	1/4W	
R965	1-249-419-11	CARBON	1.5K	5%	1/4W	
		<VARIABLE RESISTOR>				
RV901	1-228-994-00	RES, ADJ, CARBON 10K				
		<TRANSFORMER>				
T901	1-437-207-11	TRANSFORMER, FERRITE (HOT)				
T902	1-423-853-11	TRANSFORMER, FERRITE (HDT)				
		**********				
	* A-1297-663-A	A BOARD, COMPLETE				
		**********				
	7-685-648-79	SCREW +BVTP 3X12 TYPE2 IT-3				
		<CAPACITOR>				
C1	1-104-665-11	ELECT	100µF	20%	25V	
C2	1-163-031-11	CERAMIC CHIP	0.01µF		50V	
C3	1-163-031-11	CERAMIC CHIP	0.01µF		50V	
C4	1-126-396-11	ELECT CHIP	47µF	20%	16V	
C5	1-104-665-11	ELECT	100µF	20%	25V	

REF. NO.	PART NO.	DESCRIPTION			REMARK
C6	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C7	1-104-539-11	FILM CHIP	0.001µF	5%	50V
C8	1-104-539-11	FILM CHIP	0.001µF	5%	50V
C9	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C10	1-104-539-11	FILM CHIP	0.001µF	5%	50V
C11	1-104-551-11	FILM CHIP	0.01µF	5%	16V
C12	1-163-019-00	CERAMIC CHIP	0.0068µF	10%	50V
C13	1-124-903-11	ELECT	1µF	20%	50V
C14	1-104-539-11	FILM CHIP	0.001µF	5%	50V
C15	1-104-539-11	FILM CHIP	0.001µF	5%	50V
C17	1-163-125-00	CERAMIC CHIP	220pF	5%	50V
C18	1-126-967-11	ELECT	47µF	20%	16V
C19	1-126-398-11	ELECT CHIP	4.7µF	20%	35V
C21	1-126-964-11	ELECT	10µF	20%	50V
C22	1-126-393-11	ELECT CHIP	33µF	20%	10V
C23	1-124-925-11	ELECT	2.2µF	20%	50V
C24	1-126-965-11	ELECT	22µF	20%	50V
C25	1-126-393-11	ELECT CHIP	33µF	20%	10V
C26	1-124-925-11	ELECT	2.2µF	20%	50V
C27	1-163-249-11	CERAMIC CHIP	82pF	5%	50V
C28	1-163-011-11	CERAMIC CHIP	0.0015µF	10%	50V
C29	1-163-011-11	CERAMIC CHIP	0.0015µF	10%	50V
C30	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C31	1-104-541-11	FILM CHIP	0.0015µF	5%	50V
C32	1-126-393-11	ELECT CHIP	33µF	20%	10V
C33	1-126-391-11	ELECT CHIP	47µF	20%	6.3V
C34	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C35	1-126-391-11	ELECT CHIP	47µF	20%	6.3V
C36	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C37	1-126-393-11	ELECT CHIP	33µF	20%	10V
C38	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C39	1-165-319-11	CERAMIC CHIP	0.1µF		50V
C40	1-126-393-11	ELECT CHIP	33µF	20%	10V
C41	1-126-393-11	ELECT CHIP	33µF	20%	10V
C42	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C43	1-126-396-11	ELECT CHIP	47µF	20%	16V
C44	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C45	1-126-391-11	ELECT CHIP	47µF	20%	6.3V
C46	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C47	1-126-394-11	ELECT CHIP	10µF	20%	16V
C48	1-126-391-11	ELECT CHIP	47µF	20%	6.3V
C49	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C50	1-164-232-11	CERAMIC CHIP	0.01µF	10%	50V
C52	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C53	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C54	1-126-393-11	ELECT CHIP	33µF	20%	10V
C55	1-126-393-11	ELECT CHIP	33µF	20%	10V
C56	1-126-393-11	ELECT CHIP	33µF	20%	10V
C57	1-126-393-11	ELECT CHIP	33µF	20%	10V
C58	1-126-393-11	ELECT CHIP	33µF	20%	10V
C59	1-126-393-11	ELECT CHIP	33µF	20%	10V
C60	1-126-401-11	ELECT CHIP	1µF	20%	50V
C61	1-126-391-11	ELECT CHIP	47µF	20%	6.3V
C62	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C63	1-109-889-11	ELECT	1µF	20%	50V
C64	1-163-809-11	CERAMIC CHIP	0.047µF	10%	25V
C65	1-163-809-11	CERAMIC CHIP	0.047µF	10%	25V
C66	1-164-232-11	CERAMIC CHIP	0.01µF	10%	50V
C67	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C68	1-163-243-11	CERAMIC CHIP	47pF	5%	50V
C69	1-163-141-00	CERAMIC CHIP	0.001µF	5%	50V
C70	1-128-235-11	ELECT CHIP	0.47µF	20%	50V
C71	1-163-129-00	CERAMIC CHIP	330pF	5%	50V
C72	1-163-243-11	CERAMIC CHIP	47pF	5%	50V
C73	1-163-129-00	CERAMIC CHIP	330pF	5%	50V
C74	1-126-401-11	ELECT CHIP	1µF	20%	50V
C75	1-164-232-11	CERAMIC CHIP	0.01µF	10%	50V
C76	1-163-009-11	CERAMIC CHIP	0.001µF	10%	50V
C77	1-164-232-11	CERAMIC CHIP	0.01µF	10%	50V

REF. NO.	PART NO.	DESCRIPTION		REMARK
C78	1-164-232-11	CERAMIC CHIP 0.01µF	10%	50V
C79	1-164-232-11	CERAMIC CHIP 0.01µF	10%	50V
C80	1-126-391-11	ELECT CHIP 47µF	20%	6.3V
C81	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C82	1-164-232-11	CERAMIC CHIP 0.01µF	10%	50V
C83	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C84	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C85	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C86	1-163-025-11	CERAMIC CHIP 0.001µF		50V
C87	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C88	1-163-099-00	CERAMIC CHIP 18pF	5%	50V
C89	1-163-025-11	CERAMIC CHIP 0.001µF		50V
C90	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C91	1-163-009-11	CERAMIC CHIP 0.001µF	10%	50V
C92	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C93	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C94	1-126-396-11	ELECT CHIP 47µF	20%	16V
C95	1-126-394-11	ELECT CHIP 10µF	20%	16V
C96	1-126-394-11	ELECT CHIP 10µF	20%	16V
C97	1-126-394-11	ELECT CHIP 10µF	20%	16V
C98	1-126-394-11	ELECT CHIP 10µF	20%	16V
C99	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C100	1-126-394-11	ELECT CHIP 10µF	20%	16V
C101	1-126-394-11	ELECT CHIP 10µF	20%	16V
C102	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C103	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C104	1-126-916-11	ELECT 1000µF	20%	6.3V
C105	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C106	1-163-249-11	CERAMIC CHIP 82pF	5%	50V
C107	1-126-391-11	ELECT CHIP 47µF	20%	6.3V
C108	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C109	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C110	1-126-391-11	ELECT CHIP 47µF	20%	6.3V
C111	1-126-391-11	ELECT CHIP 47µF	20%	6.3V
C112	1-126-933-11	ELECT 100µF	20%	16V
C113	1-126-935-11	ELECT 470µF	20%	16V
C115	1-126-933-11	ELECT 100µF	20%	16V
C116	1-163-113-00	CERAMIC CHIP 68pF	5%	50V
C117	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C118	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1001	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1002	1-126-396-11	ELECT CHIP 47µF	20%	16V
C1003	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1004	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1005	1-126-391-11	ELECT CHIP 47µF	20%	6.3V
C1006	1-126-394-11	ELECT CHIP 10µF	20%	16V
C1007	1-126-393-11	ELECT CHIP 33µF	20%	10V
C1008	1-126-393-11	ELECT CHIP 33µF	20%	10V
C1009	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1010	1-126-393-11	ELECT CHIP 33µF	20%	10V
C1011	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1013	1-126-393-11	ELECT CHIP 33µF	20%	10V
C1014	1-126-394-11	ELECT CHIP 10µF	20%	16V
C1015	1-126-393-11	ELECT CHIP 33µF	20%	10V
C1016	1-126-393-11	ELECT CHIP 33µF	20%	10V
C1017	1-126-394-11	ELECT CHIP 10µF	20%	16V
C1019	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1021	1-126-396-11	ELECT CHIP 47µF	20%	16V
C1022	1-126-391-11	ELECT CHIP 47µF	20%	6.3V
C1023	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1024	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1025	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1026	1-126-396-11	ELECT CHIP 47µF	20%	16V
C1027	1-126-394-11	ELECT CHIP 10µF	20%	16V
C1028	1-126-394-11	ELECT CHIP 10µF	20%	16V
C1029	1-126-398-11	ELECT CHIP 4.7µF	20%	35V
C1030	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1031	1-163-031-11	CERAMIC CHIP 0.01µF		50V

REF. NO.	PART NO.	DESCRIPTION		REMARK
C1032	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1033	1-126-391-11	ELECT CHIP 47µF	20%	6.3V
C1034	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1035	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1036	1-126-391-11	ELECT CHIP 47µF	20%	6.3V
C1037	1-126-398-11	ELECT CHIP 4.7µF	20%	35V
C1038	1-126-396-11	ELECT CHIP 47µF	20%	16V
C1039	1-126-398-11	ELECT CHIP 4.7µF	20%	35V
C1040	1-126-394-11	ELECT CHIP 10µF	20%	16V
C1041	1-126-398-11	ELECT CHIP 4.7µF	20%	35V
C1042	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1043	1-126-391-11	ELECT CHIP 47µF	20%	6.3V
C1044	1-126-391-11	ELECT CHIP 47µF	20%	6.3V
C1045	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1046	1-126-394-11	ELECT CHIP 10µF	20%	16V
C1047	1-126-394-11	ELECT CHIP 10µF	20%	16V
C1048	1-126-398-11	ELECT CHIP 4.7µF	20%	35V
C1049	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1050	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1051	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1052	1-126-391-11	ELECT CHIP 47µF	20%	6.3V
C1053	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1054	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1055	1-126-391-11	ELECT CHIP 47µF	20%	6.3V
C1056	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1057	1-126-396-11	ELECT CHIP 47µF	20%	16V
C1058	1-164-005-11	CERAMIC CHIP 0.47µF		25V
C1059	1-126-396-11	ELECT CHIP 47µF	20%	16V
C1060	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1061	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1062	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1063	1-164-005-11	CERAMIC CHIP 0.47µF		25V
C1064	1-126-391-11	ELECT CHIP 47µF	20%	6.3V
C1065	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1066	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1067	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1068	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1069	1-126-396-11	ELECT CHIP 47µF	20%	16V
C1070	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1071	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1072	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1073	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1074	1-126-396-11	ELECT CHIP 47µF	20%	16V
C1075	1-126-393-11	ELECT CHIP 33µF	20%	10V
C1076	1-126-393-11	ELECT CHIP 33µF	20%	10V
C1077	1-126-393-11	ELECT CHIP 33µF	20%	10V
C1078	1-163-809-11	CERAMIC CHIP 0.047µF	10%	25V
C1079	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1080	1-126-393-11	ELECT CHIP 33µF	20%	10V
C1081	1-126-393-11	ELECT CHIP 33µF	20%	10V
C1082	1-126-393-11	ELECT CHIP 33µF	20%	10V
C1083	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1084	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1085	1-126-396-11	ELECT CHIP 47µF	20%	16V
C1086	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1087	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1088	1-163-809-11	CERAMIC CHIP 0.047µF	10%	25V
C1089	1-163-809-11	CERAMIC CHIP 0.047µF	10%	25V
C1090	1-163-989-11	CERAMIC CHIP 0.033µF	10%	25V
C1091	1-126-396-11	ELECT CHIP 47µF	20%	16V
C1092	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1093	1-163-809-11	CERAMIC CHIP 0.047µF	10%	25V
C1094	1-163-809-11	CERAMIC CHIP 0.047µF	10%	25V
C1095	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1096	1-163-989-11	CERAMIC CHIP 0.033µF	10%	25V
C1097	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1098	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1100	1-163-989-11	CERAMIC CHIP 0.033µF	10%	25V
C1101	1-164-489-11	CERAMIC CHIP 0.22µF	10%	16V

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REF. NO.	PART NO.	DESCRIPTION		REMARK
C1102	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1103	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1104	1-163-113-00	CERAMIC CHIP 68pF	5%	50V
C1105	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1106	1-163-113-00	CERAMIC CHIP 68pF	5%	50V
C1107	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1108	1-163-129-00	CERAMIC CHIP 330pF	5%	50V
C1111	1-163-251-11	CERAMIC CHIP 100pF	5%	50V
C1112	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1113	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1114	1-163-038-91	CERAMIC CHIP 0.1µF		25V
C1115	1-163-038-91	CERAMIC CHIP 0.1µF		25V
C1116	1-163-038-91	CERAMIC CHIP 0.1µF		25V
C1117	1-163-038-91	CERAMIC CHIP 0.1µF		25V
C1118	1-163-038-91	CERAMIC CHIP 0.1µF		25V
C1119	1-163-038-91	CERAMIC CHIP 0.1µF		25V
C1120	1-163-038-91	CERAMIC CHIP 0.1µF		25V
C1121	1-163-038-91	CERAMIC CHIP 0.1µF		25V
C1122	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1123	1-163-117-00	CERAMIC CHIP 100pF	5%	50V
C1124	1-163-038-91	CERAMIC CHIP 0.1µF		25V
C1125	1-128-594-11	ELECT CHIP 1µF	20%	50V
C1126	1-136-173-00	FILM 0.47µF	5%	50V
C1127	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C1128	1-128-235-11	ELECT CHIP 0.47µF	20%	50V
C1129	1-126-390-11	ELECT CHIP 22µF	20%	6.3V
C1130	1-163-121-00	CERAMIC CHIP 150pF	5%	50V
C1131	1-163-121-00	CERAMIC CHIP 150pF	5%	50V
C1132	1-163-121-00	CERAMIC CHIP 150pF	5%	50V
C1133	1-126-924-11	ELECT 330µF	20%	6.3V
C1134	1-126-924-11	ELECT 330µF	20%	6.3V
C2001	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C2002	1-126-967-11	ELECT 47µF	20%	50V
C2003	1-126-396-11	ELECT CHIP 47µF	20%	16V
C2004	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C2005	1-126-963-11	ELECT 4.7µF	20%	50V
C2006	1-126-398-11	ELECT CHIP 4.7µF	20%	35V
C2007	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C2008	1-163-231-11	CERAMIC CHIP 15pF	5%	50V
C2009	1-163-097-00	CERAMIC CHIP 15pF	5%	50V
C2010	1-126-391-11	ELECT CHIP 47µF	20%	6.3V
C2011	1-104-563-11	FILM CHIP 0.1µF	5%	16V
C2012	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C2013	1-163-009-11	CERAMIC CHIP 0.001µF	10%	50V
C2014	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C2015	1-126-391-11	ELECT CHIP 47µF	20%	6.3V
C2016	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C2017	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C2018	1-126-391-11	ELECT CHIP 47µF	20%	6.3V
C2019	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C2020	1-163-009-11	CERAMIC CHIP 0.001µF	10%	50V
C2021	1-163-239-11	CERAMIC CHIP 33pF	5%	50V
C2022	1-126-391-11	ELECT CHIP 47µF	20%	6.3V
C2023	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C2024	1-104-557-11	FILM CHIP 0.033µF	5%	16V
C2025	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C2026	1-104-563-11	FILM CHIP 0.1µF	5%	16V
C2027	1-163-251-11	CERAMIC CHIP 100pF	5%	50V
C2028	1-104-551-11	FILM CHIP 0.01µF	5%	16V
C2029	1-126-401-11	ELECT CHIP 1µF	20%	50V
C2030	1-104-559-11	FILM CHIP 0.047µF	5%	16V
C2031	1-126-401-11	ELECT CHIP 1µF	20%	50V
C2032	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C2033	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C2034	1-126-391-11	ELECT CHIP 47µF	20%	6.3V
C2035	1-126-967-11	ELECT 47µF	20%	16V
C2036	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C2037	1-163-031-11	CERAMIC CHIP 0.01µF		50V

REF. NO.	PART NO.	DESCRIPTION		REMARK
C2038	1-126-401-11	ELECT CHIP 1µF	20%	50V
C2039	1-104-562-11	FILM CHIP 0.082µF	5%	16V
C2040	1-164-232-11	CERAMIC CHIP 0.01µF	10%	50V
C2041	1-163-133-00	CERAMIC CHIP 470pF	5%	50V
C2042	1-104-555-11	FILM CHIP 0.022µF	5%	16V
C2043	1-164-232-11	CERAMIC CHIP 0.01µF	10%	50V
C2044	1-164-232-11	CERAMIC CHIP 0.01µF	10%	50V
C2045	1-104-540-11	FILM CHIP 0.0012µF	5%	50V
C2046	1-126-398-11	ELECT CHIP 4.7µF	20%	35V
C2047	1-164-232-11	CERAMIC CHIP 0.01µF	10%	50V
C2048	1-104-545-11	FILM CHIP 0.0033µF	5%	16V
C2049	1-126-401-11	ELECT CHIP 1µF	20%	50V
C2050	1-104-539-11	FILM CHIP 0.001µF	5%	50V
C2051	1-104-540-11	FILM CHIP 0.0012µF	5%	50V
C2052	1-163-121-00	CERAMIC CHIP 150pF	5%	50V
C2053	1-163-133-00	CERAMIC CHIP 470pF	5%	50V
C2054	1-126-396-11	ELECT CHIP 47µF	20%	16V
C2055	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C2056	1-126-396-11	ELECT CHIP 47µF	20%	16V
C2057	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C2058	1-126-193-11	ELECT 1µF	20%	50V
C2059	1-164-232-11	CERAMIC CHIP 0.01µF	10%	50V
C2060	1-126-601-11	ELECT 2.2µF	20%	50V
C2061	1-126-601-11	ELECT 2.2µF	20%	50V
C2062	1-126-391-11	ELECT CHIP 47µF	20%	6.3V
C2063	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C2064	1-163-235-11	CERAMIC CHIP 22pF	5%	50V
C2065	1-163-235-11	CERAMIC CHIP 22pF	5%	50V
C2066	1-104-665-11	ELECT 100µF	20%	25V
C2067	1-163-038-91	CERAMIC CHIP 0.1µF		25V
C2068	1-163-009-11	CERAMIC CHIP 0.001µF	10%	50V
C2069	1-163-125-00	CERAMIC CHIP 220pF	5%	50V
C2070	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C2071	1-163-129-00	CERAMIC CHIP 330pF	5%	50V
C2072	1-163-038-91	CERAMIC CHIP 0.1µF		25V
C2073	1-163-038-91	CERAMIC CHIP 0.1µF		25V
C2074	1-163-038-91	CERAMIC CHIP 0.1µF		25V
C2075	1-163-038-91	CERAMIC CHIP 0.1µF		25V
C2076	1-164-344-11	CERAMIC CHIP 0.068µF	10%	25V
C2077	1-136-157-00	FILM 0.022µF	5%	50V
C3001	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C3002	1-104-664-11	ELECT 47µF	20%	25V
C3003	1-104-665-11	ELECT 100µF	20%	25V
C3004	1-126-952-11	ELECT 1000µF	20%	16V
C3005	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C3006	1-126-396-11	ELECT CHIP 47µF	20%	16V
C3007	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C3008	1-126-394-11	ELECT CHIP 10µF	20%	16V
C3009	1-126-398-11	ELECT CHIP 4.7µF	20%	35V
C3010	1-163-017-00	CERAMIC CHIP 0.0047µF	20%	50V
C3011	1-126-394-11	ELECT CHIP 10µF	20%	16V
C3012	1-126-603-11	ELECT 4.7µF	20%	35V
C3013	1-106-383-00	MYLAR 0.047µF	10%	100V
C3014	1-126-396-11	ELECT CHIP 47µF	20%	16V
C3015	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C3019	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C3020	1-126-396-11	ELECT CHIP 47µF	20%	16V
C3023	1-104-666-11	ELECT 220µF	20%	25V
C3024	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C3025	1-102-212-00	CERAMIC 820pF	10%	500V
C3026	1-126-395-11	ELECT 22µF	20%	16V
C3027	1-126-396-11	ELECT CHIP 47µF	20%	16V
C3028	1-163-038-91	CERAMIC CHIP 0.1µF		25V
C3029	1-164-232-11	CERAMIC CHIP 0.01µF	10%	50V
C3030	1-164-182-11	CERAMIC CHIP 0.0033µF	10%	50V
C3031	1-163-031-11	CERAMIC CHIP 0.01µF		50V
C3032	1-163-137-00	CERAMIC CHIP 680pF	5%	50V
C3033	1-126-401-11	ELECT CHIP 1µF	20%	50V

REF. NO.	PART NO.	DESCRIPTION			REMARK
C3034	1-126-396-11	ELECT CHIP	47µF	20%	16V
C3035	1-163-133-00	CERAMIC CHIP	470pF	5%	50V
C3036	1-126-401-11	ELECT CHIP	1µF	20%	50V
C3037	1-164-161-11	CERAMIC CHIP	0.0022µF	10%	50V
C3038	1-126-394-11	ELECT CHIP	10µF	20%	16V
C3039	1-126-396-11	ELECT CHIP	47µF	20%	16V
C3040	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C3041	1-126-401-11	ELECT CHIP	1µF	20%	50V
C3042	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C3043	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C3044	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C3045	1-163-038-91	CERAMIC CHIP	0.1µF		25V
C3046	1-126-396-11	ELECT CHIP	47µF	20%	16V
C3047	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C3048	1-106-383-00	MYLAR	0.047µF	10%	200V
C3049	1-102-030-00	CERAMIC	330pF	10%	500V
C3050	1-123-024-21	ELECT	33µF		160V
C3051	1-136-173-00	FILM	0.47µF	5%	50V
C3052	1-104-553-11	FILM CHIP	0.015µF	5%	16V
C3053	1-102-030-00	CERAMIC	330pF	10%	500V
C3054	1-106-383-00	MYLAR	0.047µF	10%	100V
C3055	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C3056	1-106-347-00	MYLAR	0.0015µF	10%	100V
C3057	1-136-541-11	FILM	1.5µF	5%	200V
C3058	1-106-371-00	MYLAR	0.015µF		200V
C3059	1-104-489-11	FILM	820pF	3%	1.6KV
C3060	1-136-044-00	FILM	0.0017µF	3%	1.6KV
C3061	1-162-114-00	CERAMIC	0.0047µF		2KV
C3062	1-164-161-11	CERAMIC CHIP	0.0022µF	10%	50V
C3064	1-126-394-11	ELECT CHIP	10µF	20%	16V
C3066	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C3067	1-106-367-00	MYLAR	0.01µF	10%	200V
C3068	1-109-889-11	ELECT	1µF	20%	50V
C3069	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C3070	1-130-879-00	FILM	0.047µF	5%	50V
C3071	1-130-879-00	FILM	0.047µF	5%	50V
C3073	1-104-665-11	ELECT	100µF	20%	25V
C3074	1-126-933-11	ELECT	100µF	20%	16V
C3075	1-104-661-91	ELECT	330µF	20%	16V
C3076	1-164-004-11	CERAMIC CHIP	0.1µF	10%	25V
C3077	1-126-204-11	ELECT	47µF	20%	16V
C3078	1-126-204-11	ELECT	47µF	20%	16V
C3079	1-136-165-00	FILM	0.1µF	5%	50V
C3080	1-124-779-00	ELECT	10µF	20%	16V
C3081	1-106-343-00	MYLAR	0.001µF	10%	100V
C3082	1-104-664-91	ELECT	330µF	20%	16V
C3083	1-106-363-00	MYLAR	0.0068µF		200V
C3084	1-102-228-00	CERAMIC	470pF	10%	500V
C3085	1-124-925-11	ELECT	2.2µF	20%	50V
C3086	1-126-602-11	ELECT	3.3µF	20%	50V
C3087	1-126-204-11	ELECT	47µF	20%	16V
C3088	1-108-632-11	MYLAR	0.033µF	10%	100V
C3089	1-106-688-11	MYLAR	0.0047µF	10%	200V

<CONNECTOR>

CN1	*1-573-964-11	PIN, CONNECTOR (PC BOARD) 6P	
CN2	1-695-915-11	TAB (CONTACT)	
CN3	*1-564-508-11	PLUG, CONNECTOR 5P	
CN4	*1-564-510-11	PLUG, CONNECTOR 7P	
CN5	*1-564-516-11	PLUG, CONNECTOR 13P	
CN6	1-573-297-11	CONNECTOR, BOARD TO BOARD 18P	
CN1001	1-573-297-11	CONNECTOR, BOARD TO BOARD 18P	
CN1002	*1-564-512-11	PLUG, CONNECTOR 9P	
CN2001	*1-564-508-11	PLUG, CONNECTOR 5P	
CN2002	*1-566-055-11	PIN, CONNECTOR 3P	
CN2003	*1-564-506-11	PLUG, CONNECTOR 3P	
CN2004	*1-564-516-11	PLUG, CONNECTOR 13P	
CN3001	*1-564-506-11	PLUG, CONNECTOR 3P	

REF. NO.	PART NO.	DESCRIPTION	REMARK
CN3002	*1-564-512-11	PLUG, CONNECTOR 9P	
CN3005	*1-564-509-11	PLUG, CONNECTOR 6P	
CN3006	*1-691-096-11	PIN, CONNECTOR (PC BOARD) 8P	
CN3007	1-695-915-11	TAB (CONTACT)	
CN3008	*1-564-509-11	PLUG, CONNECTOR 6P	
CN3009	*1-564-513-11	PLUG, CONNECTOR 10P	
CN3010	*1-564-506-11	PLUG, CONNECTOR 3P	

<COMPOSITION CIRCUIT BLOCK>

CP1	1-808-654-21	MODULE	

<DIODE>

D1	8-719-977-32	DIODE DTZ11B	
D2	8-719-800-76	DIODE 1SS226	
D3	8-719-404-46	DIODE MA110-TX	
D5	8-719-025-07	DIODE 1SV232-TPH3	
D7	8-719-404-46	DIODE MA110	
D9	8-719-159-13	DIODE RD5.1SB3-T2	
D10	8-719-911-19	DIODE 1SS119-25	
D1001	8-719-404-46	DIODE MA110	
D1002	8-719-404-46	DIODE MA110	
D1004	8-719-158-53	DIODE RD13SB2	
D1005	8-719-158-20	DIODE RD6.2SB1	
D1007	8-719-404-46	DIODE MA110	
D1008	8-719-404-46	DIODE MA110	
D1009	8-719-404-46	DIODE MA110	
D2001	8-719-404-46	DIODE MA110	
D2003	8-719-158-20	DIODE RD6.2SB1	
D3001	8-719-977-46	DIODE DTZ13C	
D3002	8-719-302-43	DIODE EL1Z	
D3003	8-719-404-46	DIODE MA110	
D3004	8-719-404-46	DIODE MA110	
D3005	8-719-404-46	DIODE MA110	
D3006	8-719-158-49	DIODE RD12SB2	
D3007	8-719-404-46	DIODE MA110	
D3008	8-719-158-49	DIODE RD12SB2	
D3012	8-719-110-46	DIODE RD16ESB3	
D3013	8-719-911-19	DIODE 1SS119-25	
D3014	8-719-988-11	DIODE FE3D	
D3015	8-719-988-11	DIODE FE3D	
D3016	8-719-975-77	DIODE SB340	
D3017	8-719-028-72	DIODE RGP02-17EL-6433	
D3019	8-719-404-46	DIODE MA110	
D3021	8-719-158-49	DIODE RD12SB2	
D3022	8-719-158-49	DIODE RD12SB2	
D3023	8-719-404-46	DIODE MA110	
D3024	8-719-404-46	DIODE MA110	
D3025	8-719-404-46	DIODE MA110	
D3026	8-719-404-46	DIODE MA110	
D3028	8-719-404-46	DIODE MA110	
D3029	8-719-404-46	DIODE MA110	
D3030	8-719-200-02	DIODE 10E-2	
D3031	8-719-158-40	DIODE RD10SB1	
D3032	8-719-911-19	DIODE 1SS119-25	

<DELAY LINE>

DL1	1-415-633-11	DELAY LINE, Y	
DL1001	1-415-808-11	DELAY LINE	
DL1002	1-415-808-11	DELAY LINE	
DL1003	1-415-808-11	DELAY LINE	
DL1004	1-415-809-11	DELAY LINE	
DL1005	1-415-808-11	DELAY LINE	

<FERRITE BEAD>

FB3001	1-410-396-41	FERRITE BEAD INDUCTOR 0.45µH	

A

REF. NO.	PART NO.	DESCRIPTION	REMARK
FB3002	1-410-396-41	FERRITE BEAD INDUCTOR 0.45µH	
		<FILTER>	
FL1	1-239-550-11	FILTER, LOW PASS	
FL2	1-239-550-11	FILTER, LOW PASS	
FL3	1-239-550-11	FILTER, LOW PASS	
		<IC>	
IC1	8-759-344-36	IC MC14538BFEL	
IC2	8-759-008-82	IC MC14013BF	
IC3	8-759-344-36	IC MC14538BFEL	
IC4	8-759-344-36	IC MC14538BFEL	
IC5	8-759-009-82	IC MC14011BF-T2	
IC6	8-759-084-76	IC MM1111XF	
IC7	8-759-084-76	IC MM1111XF	
IC9	8-759-335-58	IC MM1112XFF	
IC10	8-752-372-78	IC CXD2024AQ	
IC11	8-759-297-78	IC MM1231XFFK	
IC12	8-759-502-80	IC LM358M	
IC13	8-759-631-08	IC M51279FP	
IC14	8-759-300-71	IC HD14053BFP	
IC15	8-752-053-21	IC CXA1211M	
IC16	8-752-053-21	IC CXA1211M	
IC17	8-759-239-34	IC TC74HC4538AF	
IC18	8-759-032-01	IC MC74HC00AF	
IC1001	8-759-009-22	IC MC14094BF	
IC1002	8-759-196-70	IC M62358FP-E1	
IC1003	8-759-007-70	IC MC74HC158F	
IC1004	8-752-053-21	IC CXA1211M	
IC1005	8-759-297-78	IC MM1231XFFK	
IC1007	8-752-053-21	IC CXA1211M	
IC1008	8-759-008-67	IC MC14066BF	
IC1009	8-759-008-67	IC MC14066BF	
IC1010	8-752-053-21	IC CXA1211M	
IC1011	8-759-196-70	IC M62358FP-E1	
IC1012	8-759-300-71	IC HD14053BFP	
IC1013	8-759-300-71	IC HD14053BFP	
IC1014	8-759-502-80	IC LM358M	
IC1015	8-759-297-78	IC MM1231XFFK	
IC1016	8-752-067-05	IC CXA1739S	
IC1017	8-759-239-34	IC TC74HC4538AF	
IC1018	8-759-502-84	IC LM393M	
IC1019	8-759-239-34	IC TC74HC4538AF	
IC1022	8-752-054-80	IC CXA1521M	
IC1023	8-752-054-80	IC CXA1521M	
IC2001	8-759-701-88	IC NJM79L05FA	
IC2002	8-759-701-84	IC NJM7905FA	
IC2003	1-540-044-11	SOCKET, IC	
IC2003	8-759-353-20	IC HD6473257P10-µF1E	
IC2004	8-759-162-80	IC MM1170BFB	
IC2005	8-759-163-78	IC NM24C04EM8-FL63	
IC2006	8-759-163-78	IC NM24C04EM8-FL63	
IC2007	8-759-032-76	IC MC74HC125AF	
IC2008	8-752-065-79	IC CXA1470AM-T6	
IC2009	8-759-100-96	IC µPC4558G2	
IC2010	8-759-158-86	IC CXA8021M-T6	
IC2011	8-759-502-80	IC LM358M	
IC2012	8-759-008-67	IC MC14066BF	
IC2013	8-759-158-84	IC CXA1543M-T6	
IC2014	8-759-262-59	IC µPD6451AGT-632-E2	
IC2015	8-759-196-70	IC M62358FP-E1	
IC2016	8-759-502-84	IC LM393M	
IC2020	8-759-032-23	IC MC74HC74AF-T2	
IC3001	8-759-420-04	IC AN5265	
IC3003	8-759-158-82	IC CXA1544M-T6	
IC3004	8-759-009-82	IC MC14011BF-T2	
IC3005	8-759-929-26	IC TL431CPS	

REF. NO.	PART NO.	DESCRIPTION	REMARK
IC3006	8-759-929-26	IC TL431CPS	
IC3007	8-759-502-84	IC LM393M	
IC3008	8-759-502-80	IC LM358M	
IC3009	8-759-803-42	IC LA6500-FA	
		<COIL>	
L1	1-410-210-21	INDUCTOR CHIP 33µH	
L2	1-410-209-51	INDUCTOR CHIP 27µH	
L3	1-410-204-31	INDUCTOR CHIP 10µH	
L4	1-410-204-31	INDUCTOR CHIP 10µH	
L5	1-410-200-31	INDUCTOR CHIP 4.7µH	
L6	1-410-200-31	INDUCTOR CHIP 4.7µH	
L7	1-410-196-11	INDUCTOR CHIP 2.2µH	
L8	1-410-212-51	INDUCTOR CHIP 47µH	
L9	1-410-212-51	INDUCTOR CHIP 47µH	
L10	1-410-199-51	INDUCTOR CHIP 3.9µH	
L2001	1-412-549-11	INDUCTOR 1mH	
L2002	1-410-203-51	INDUCTOR CHIP 8.2µH	
L3004	1-459-104-00	COIL, DUST CORE	
L3005	1-459-485-00	COIL, CHOKE	
L3006	1-459-485-00	COIL, CHOKE	
L3007	1-413-059-00	TRANSFORMER, FERRITE (DFT)	
L3009	1-412-547-21	INDUCTOR 680µH	
L3010	1-421-465-00	COIL, FERRITE CHOKE 68µH	
		<NEON LAMP>	
NL3001	1-519-526-11	LAMP, NEON	
		<TRANSISTOR>	
Q1	7-682-949-01	SCREW +PSW 3X10	
Q1	8-729-021-82	TRANSISTOR 2SD2396K	
Q2	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q3	8-729-216-22	TRANSISTOR 2SA1162-G	
Q4	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q5	8-729-216-22	TRANSISTOR 2SA1162-G	
Q6	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q7	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q8	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q9	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q10	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q11	8-729-216-22	TRANSISTOR 2SA1162-G	
Q12	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q13	8-729-216-22	TRANSISTOR 2SA1162-G	
Q14	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q15	8-729-216-22	TRANSISTOR 2SA1162-G	
Q16	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q17	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q18	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q19	8-729-216-22	TRANSISTOR 2SA1162-G	
Q20	8-729-216-22	TRANSISTOR 2SA1162-G	
Q21	8-729-216-22	TRANSISTOR 2SA1162-G	
Q22	8-729-216-22	TRANSISTOR 2SA1162-G	
Q23	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q24	8-729-216-22	TRANSISTOR 2SA1162-G	
Q25	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q26	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q27	8-729-216-22	TRANSISTOR 2SA1162-G	
Q28	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q35	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q36	8-729-216-22	TRANSISTOR 2SA1162-G	
Q37	8-729-216-22	TRANSISTOR 2SA1162-G	
Q38	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q39	8-729-141-53	TRANSISTOR 2SK94-X2X3X4	
Q40	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q41	8-729-141-53	TRANSISTOR 2SK94-X2X3X4	

REF. NO.	PART NO.	DESCRIPTION	REMARK
Q42	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q43	8-729-216-22	TRANSISTOR 2SA1162-G	
Q44	8-729-216-22	TRANSISTOR 2SA1162-G	
Q45	8-729-216-22	TRANSISTOR 2SA1162-G	
Q46	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q47	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q48	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q49	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q50	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q51	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q52	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q56	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q57	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q58	8-729-313-42	TRANSISTOR 2SD1134-C	
Q59	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q60	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q1001	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1002	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1003	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1004	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1005	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1006	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1007	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1008	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1009	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1010	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1011	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1012	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1013	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1014	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1015	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1016	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1017	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1018	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1019	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1020	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1021	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1022	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1023	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1024	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1025	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1026	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1027	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1028	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1029	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1030	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1031	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1032	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1033	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1034	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1035	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1036	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1037	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1038	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1039	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1040	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1041	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1042	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1043	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1044	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1045	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1046	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1047	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1048	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1049	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1050	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1051	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1052	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1053	8-729-120-28	TRANSISTOR 2SC1623-L5L6	

REF. NO.	PART NO.	DESCRIPTION	REMARK
Q1054	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q1055	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q1056	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q1057	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1058	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1059	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1060	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1061	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1062	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q1063	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1064	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1065	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1066	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1067	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1068	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q1069	8-729-119-76	TRANSISTOR 2SA1175TP-E	
Q1070	8-729-119-76	TRANSISTOR 2SA1175TP-E	
Q2004	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q2005	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q2006	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q2007	8-729-032-47	TRANSISTOR 2SA1741	
	7-682-949-01	SCREW +PSW 3X10; Q2007	
Q2008	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q3001	8-729-140-96	TRANSISTOR 2SD774-34	
Q3002	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q3003	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q3004	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q3005	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q3006	8-729-216-22	TRANSISTOR 2SA1162-G	
Q3007	8-729-216-22	TRANSISTOR 2SA1162-G	
Q3008	8-729-216-22	TRANSISTOR 2SA1162-G	
Q3009	8-729-216-22	TRANSISTOR 2SA1162-G	
Q3010	8-729-216-22	TRANSISTOR 2SA1162-G	
Q3011	8-729-216-22	TRANSISTOR 2SA1162-G	
Q3012	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q3013	8-729-216-22	TRANSISTOR 2SA1162-G	
Q3014	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q3016	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q3017	8-729-216-22	TRANSISTOR 2SA1162-G	
Q3024	8-729-027-59	TRANSISTOR DTC144EKA-T146	
Q3029	8-729-820-73	TRANSISTOR 2SC3746	
Q3030	8-729-015-28	TRANSISTOR IRFI9630GS	
	7-682-949-01	SCREW +PSW 3X10; Q3030	
Q3031	8-729-821-87	TRANSISTOR 2SD1878-CA	
	7-682-949-01	SCREW +PSW 3X10; Q3031	
Q3032	8-729-020-07	TRANSISTOR 2SC4686A(LBSONY)	
Q3033	8-729-216-22	TRANSISTOR 2SA1162-G	
Q3034	8-729-216-22	TRANSISTOR 2SA1162-G	
Q3035	8-729-216-22	TRANSISTOR 2SA1162-G	
Q3036	8-729-216-22	TRANSISTOR 2SA1162-G	
Q3037	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q3038	8-729-027-38	TRANSISTOR DTA144EKA-T146	
Q3039	8-729-027-38	TRANSISTOR DTA144EKA-T146	
Q3040	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q3041	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q3042	8-729-800-32	TRANSISTOR 2SC2362K-G	
Q3043	8-729-802-71	TRANSISTOR 2SA1407-D	

<RESISTOR>

R1	1-216-389-11	METAL OXIDE	1	5%	3W F
R2	1-247-746-11	CARBON	390	5%	1/2W
R3	1-208-814-11	METAL CHIP	22K	0.50%	1/10W
R4	1-208-814-11	METAL CHIP	22K	0.50%	1/10W
R5	1-216-678-11	METAL CHIP	13K	0.50%	1/10W
R6	1-208-814-11	METAL CHIP	22K	0.50%	1/10W
R7	1-208-814-11	METAL CHIP	22K	0.50%	1/10W
R8	1-208-814-11	METAL CHIP	22K	0.50%	1/10W
R10	1-216-083-00	METAL GLAZE	27K	5%	1/10W
R11	1-216-093-00	METAL GLAZE	68K	5%	1/10W
R12	1-216-089-91	METAL GLAZE	47K	5%	1/10W

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REF. NO.	PART NO.	DESCRIPTION		REMARK
R13	1-216-049-91	METAL GLAZE 1K	5% 1/10W	
R14	1-216-049-00	METAL GLAZE 1K	5% 1/10W	
R15	1-216-001-00	METAL GLAZE 10	5% 1/10W	
R16	1-216-067-00	METAL GLAZE 5.6K	5% 1/10W	
R17	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W	
R18	1-216-057-00	METAL GLAZE 2.2K	5% 1/10W	
R20	1-216-043-91	METAL GLAZE 560	5% 1/10W	
R21	1-216-109-00	METAL GLAZE 330K	5% 1/10W	
R22	1-216-055-00	METAL GLAZE 1.8K	5% 1/10W	
R23	1-216-025-91	METAL GLAZE 100	5% 1/10W	
R24	1-216-049-91	METAL GLAZE 1K	5% 1/10W	
R25	1-216-067-00	METAL GLAZE 5.6K	5% 1/10W	
R26	1-216-097-91	METAL GLAZE 100K	5% 1/10W	
R27	1-216-097-91	METAL GLAZE 100K	5% 1/10W	
R28	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W	
R29	1-216-057-00	METAL GLAZE 2.2K	5% 1/10W	
R30	1-216-073-00	METAL GLAZE 10K	5% 1/10W	
R31	1-216-119-00	METAL GLAZE 820K	5% 1/10W	
R32	1-216-057-00	METAL GLAZE 2.2K	5% 1/10W	
R33	1-216-067-00	METAL GLAZE 5.6K	5% 1/10W	
R34	1-216-069-00	METAL GLAZE 6.8K	5% 1/10W	
R35	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W	
R36	1-216-089-91	METAL GLAZE 47K	5% 1/10W	
R37	1-216-001-00	METAL GLAZE 10	5% 1/10W	
R38	1-216-009-00	METAL GLAZE 22	5% 1/10W	
R39	1-216-069-00	METAL GLAZE 6.8K	5% 1/10W	
R40	1-216-081-00	METAL GLAZE 22K	5% 1/10W	
R41	1-216-075-00	METAL GLAZE 12K	5% 1/10W	
R42	1-216-073-00	METAL GLAZE 10K	5% 1/10W	
R43	1-216-055-00	METAL GLAZE 1.8K	5% 1/10W	
R44	1-216-045-00	METAL GLAZE 680	5% 1/10W	
R45	1-216-033-00	METAL GLAZE 220	5% 1/10W	
R46	1-216-057-00	METAL GLAZE 2.2K	5% 1/10W	
R47	1-216-107-00	METAL GLAZE 270K	5% 1/10W	
R48	1-216-133-00	METAL GLAZE 3.3M	5% 1/10W	
R50	1-216-049-91	METAL GLAZE 1K	5% 1/10W	
R51	1-216-043-91	METAL GLAZE 560	5% 1/10W	
R52	1-216-115-00	METAL GLAZE 560K	5% 1/10W	
R53	1-216-069-00	METAL GLAZE 6.8K	5% 1/10W	
R54	1-216-057-00	METAL GLAZE 2.2K	5% 1/10W	
R55	1-216-001-00	METAL GLAZE 10	5% 1/10W	
R56	1-216-041-00	METAL GLAZE 470	5% 1/10W	
R57	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W	
R58	1-216-073-00	METAL GLAZE 10K	5% 1/10W	
R59	1-216-055-00	METAL GLAZE 1.8K	5% 1/10W	
R60	1-216-059-00	METAL GLAZE 2.7K	5% 1/10W	
R61	1-216-059-00	METAL GLAZE 2.7K	5% 1/10W	
R62	1-216-663-11	METAL CHIP 3.3K	0.50% 1/10W	
R63	1-216-647-11	METAL CHIP 680	0.50% 1/10W	
R64	1-216-659-11	METAL CHIP 2.2K	0.50% 1/10W	
R65	1-216-659-11	METAL CHIP 2.2K	0.50% 1/10W	
R66	1-216-667-11	METAL CHIP 4.7K	0.50% 1/10W	
R67	1-216-645-11	METAL CHIP 560	0.50% 1/10W	
R68	1-208-800-11	METAL CHIP 5.6K	0.50% 1/10W	
R69	1-216-059-00	METAL GLAZE 2.7K	5% 1/10W	
R70	1-216-059-00	METAL GLAZE 2.7K	5% 1/10W	
R71	1-215-404-00	METAL 200	1% 1/4W	
R72	1-216-059-00	METAL GLAZE 2.7K	5% 1/10W	
R73	1-216-049-91	METAL GLAZE 1K	5% 1/10W	
R74	1-216-645-11	METAL CHIP 560	0.50% 1/10W	
R75	1-216-049-91	METAL GLAZE 1K	5% 1/10W	
R76	1-216-663-11	METAL CHIP 3.3K	0.50% 1/10W	
R77	1-216-659-11	METAL CHIP 2.2K	0.50% 1/10W	
R78	1-216-645-11	METAL CHIP 560	0.50% 1/10W	
R79	1-208-800-11	METAL CHIP 5.6K	0.50% 1/10W	
R80	1-216-643-11	METAL CHIP 560	0.50% 1/10W	
R81	1-215-404-00	METAL 200	1% 1/4W	
R82	1-216-039-00	METAL GLAZE 390	5% 1/10W	
R83	1-216-017-91	METAL GLAZE 47	5% 1/10W	

REF. NO.	PART NO.	DESCRIPTION		REMARK
R84	1-216-009-00	METAL GLAZE 22	5% 1/10W	
R85	1-216-651-11	METAL CHIP 1K	0.50% 1/10W	
R86	1-216-645-11	METAL CHIP 560	0.50% 1/10W	
R87	1-208-774-11	METAL CHIP 470	0.50% 1/10W	
R88	1-216-059-00	METAL GLAZE 2.7K	5% 1/10W	
R89	1-216-025-91	METAL GLAZE 100	5% 1/10W	
R90	1-216-055-00	METAL GLAZE 1.8K	5% 1/10W	
R91	1-208-800-11	METAL CHIP 5.6K	0.50% 1/10W	
R92	1-216-645-11	METAL CHIP 560	0.50% 1/10W	
R93	1-216-055-00	METAL GLAZE 1.8K	5% 1/10W	
R94	1-216-041-00	METAL GLAZE 470	5% 1/10W	
R95	1-216-055-00	METAL GLAZE 1.8K	5% 1/10W	
R96	1-216-017-91	METAL GLAZE 47	5% 1/10W	
R101	1-216-009-00	METAL GLAZE 22	5% 1/10W	
R102	1-216-009-00	METAL GLAZE 22	5% 1/10W	
R103	1-216-009-00	METAL GLAZE 22	5% 1/10W	
R110	1-216-009-00	METAL GLAZE 22	5% 1/10W	
R117	1-216-113-00	METAL GLAZE 470K	5% 1/10W	
R118	1-216-097-91	METAL GLAZE 100K	5% 1/10W	
R119	1-216-073-00	METAL GLAZE 10K	5% 1/10W	
R120	1-216-105-91	METAL GLAZE 220K	5% 1/10W	
R121	1-216-099-00	METAL GLAZE 120K	5% 1/10W	
R122	1-216-059-00	METAL GLAZE 2.7K	5% 1/10W	
R123	1-216-001-00	METAL GLAZE 10	5% 1/10W	
R124	1-216-095-00	METAL GLAZE 82K	5% 1/10W	
R125	1-216-073-00	METAL GLAZE 10K	5% 1/10W	
R126	1-216-059-00	METAL GLAZE 2.7K	5% 1/10W	
R127	1-216-097-91	METAL GLAZE 100K	5% 1/10W	
R128	1-216-109-00	METAL GLAZE 330K	5% 1/10W	
R129	1-216-049-91	METAL GLAZE 1K	5% 1/10W	
R130	1-216-113-00	METAL GLAZE 470K	5% 1/10W	
R131	1-216-041-00	METAL GLAZE 470	5% 1/10W	
R132	1-218-760-11	METAL CHIP 220K	0.50% 1/10W	
R133	1-216-097-91	METAL GLAZE 100K	5% 1/10W	
R134	1-208-806-11	METAL CHIP 10K	0.50% 1/10W	
R135	1-216-041-00	METAL GLAZE 470	5% 1/10W	
R136	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W	
R137	1-216-049-91	METAL GLAZE 1K	5% 1/10W	
R138	1-218-768-11	METAL CHIP 470K	0.50% 1/10W	
R139	1-218-756-11	METAL CHIP 150K	0.50% 1/10W	
R140	1-216-077-00	METAL GLAZE 15K	5% 1/10W	
R141	1-216-671-11	METAL CHIP 6.8K	0.50% 1/10W	
R142	1-216-053-00	METAL GLAZE 1.5K	5% 1/10W	
R143	1-216-049-91	METAL GLAZE 1K	5% 1/10W	
R144	1-216-101-00	METAL GLAZE 150K	5% 1/10W	
R145	1-216-099-00	METAL GLAZE 120K	5% 1/10W	
R146	1-216-081-00	METAL GLAZE 22K	5% 1/10W	
R147	1-216-085-00	METAL GLAZE 33K	5% 1/10W	
R148	1-216-645-11	METAL GLAZE 560	5% 1/10W	
R149	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W	
R150	1-216-111-91	METAL GLAZE 390K	5% 1/10W	
R151	1-216-097-91	METAL GLAZE 100K	5% 1/10W	
R152	1-216-111-91	METAL GLAZE 390K	5% 1/10W	
R153	1-216-689-11	METAL GLAZE 39K	5% 1/10W	
R154	1-216-642-11	METAL CHIP 430	0.50% 1/10W	
R155	1-216-689-11	METAL GLAZE 39K	5% 1/10W	
R156	1-216-617-11	METAL CHIP 39	0.50% 1/10W	
R157	1-216-073-00	METAL GLAZE 10K	5% 1/10W	
R158	1-216-083-00	METAL GLAZE 27K	5% 1/10W	
R159	1-216-029-00	METAL GLAZE 150	5% 1/10W	
R160	1-216-647-11	METAL CHIP 680	0.50% 1/10W	
R161	1-216-647-11	METAL CHIP 680	0.50% 1/10W	
R162	1-216-009-00	METAL GLAZE 22	5% 1/10W	
R163	1-216-645-11	METAL GLAZE 560	5% 1/10W	
R164	1-216-089-91	METAL GLAZE 47K	5% 1/10W	
R165	1-216-047-91	METAL GLAZE 820	5% 1/10W	
R166	1-216-047-91	METAL GLAZE 820	5% 1/10W	
R167	1-216-089-91	METAL GLAZE 47K	5% 1/10W	
R168	1-216-047-91	METAL GLAZE 820	5% 1/10W	

REF. NO.	PART NO.	DESCRIPTION		REMARK
R169	1-216-089-91	METAL GLAZE 47K	5%	1/10W
R170	1-216-017-91	METAL GLAZE 47	5%	1/10W
R171	1-216-017-91	METAL GLAZE 47	5%	1/10W
R172	1-216-017-91	METAL GLAZE 47	5%	1/10W
R173	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R174	1-216-077-00	METAL GLAZE 15K	5%	1/10W
R175	1-216-009-00	METAL GLAZE 22	5%	1/10W
R176	1-216-009-00	METAL GLAZE 22	5%	1/10W
R177	1-216-009-00	METAL GLAZE 22	5%	1/10W
R178	1-216-025-91	METAL GLAZE 100	5%	1/10W
R179	1-216-651-11	METAL CHIP 1K	0.50%	1/10W
R180	1-216-017-91	METAL GLAZE 47	5%	1/10W
R181	1-208-784-11	METAL CHIP 1.2K	0.50%	1/10W
R182	1-216-017-91	METAL GLAZE 47	5%	1/10W
R183	1-208-784-11	METAL CHIP 1.2K	0.50%	1/10W
R184	1-216-017-91	METAL GLAZE 47	5%	1/10W
R185	1-216-075-00	METAL GLAZE 12K	5%	1/10W
R186	1-216-649-11	METAL CHIP 820	0.50%	1/10W
R187	1-216-057-00	METAL GLAZE 2.2K	5%	1/10W
R188	1-216-051-00	METAL GLAZE 1.2K	5%	1/10W
R189	1-216-075-00	METAL GLAZE 12K	5%	1/10W
R190	1-216-649-11	METAL CHIP 820	0.50%	1/10W
R191	1-216-057-00	METAL GLAZE 2.2K	5%	1/10W
R192	1-216-051-00	METAL GLAZE 1.2K	5%	1/10W
R193	1-216-075-00	METAL GLAZE 12K	5%	1/10W
R194	1-216-649-11	METAL CHIP 820	0.50%	1/10W
R195	1-216-057-00	METAL GLAZE 2.2K	5%	1/10W
R196	1-216-025-91	METAL GLAZE 100	5%	1/10W
R197	1-216-051-00	METAL GLAZE 1.2K	5%	1/10W
R198	1-216-025-91	METAL GLAZE 100	5%	1/10W
R199	1-216-077-00	METAL GLAZE 15K	5%	1/10W
R200	1-216-077-00	METAL GLAZE 15K	5%	1/10W
R201	1-208-810-11	METAL CHIP 15K	0.50%	1/10W
R203	1-216-025-91	METAL GLAZE 100	5%	1/10W
R205	1-216-009-00	METAL GLAZE 22	5%	1/10W
R206	1-216-029-00	METAL GLAZE 150	5%	1/10W
R216	1-216-389-11	METAL OXIDE 1	5%	3W F
R219	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R220	1-216-073-00	METAL GLAZE 10K	5%	1/10W
R221	1-216-073-00	METAL GLAZE 10K	5%	1/10W
R222	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R223	1-216-073-00	METAL GLAZE 10K	5%	1/10W
R224	1-216-093-00	METAL GLAZE 68K	5%	1/10W
R225	1-249-417-11	CARBON 1K	5%	1/4W
R226	1-216-033-00	METAL GLAZE 220	5%	1/10W
R227	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R228	1-216-107-00	METAL GLAZE 270K	5%	1/10W
R229	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R230	1-249-426-11	CARBON(SMALL)5.6K	5%	1/4W
R1001	1-216-033-00	METAL GLAZE 220	5%	1/10W
R1002	1-216-033-00	METAL GLAZE 220	5%	1/10W
R1003	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R1004	1-216-025-91	METAL GLAZE 100	5%	1/10W
R1005	1-216-063-91	METAL GLAZE 3.9K	5%	1/10W
R1006	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R1007	1-216-025-91	METAL GLAZE 100	5%	1/10W
R1008	1-216-025-91	METAL GLAZE 100	5%	1/10W
R1009	1-216-009-00	METAL GLAZE 22	5%	1/10W
R1011	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R1012	1-216-009-00	METAL GLAZE 22	5%	1/10W
R1015	1-216-009-00	METAL GLAZE 22	5%	1/10W
R1016	1-216-009-00	METAL GLAZE 22	5%	1/10W
R1017	1-216-009-00	METAL GLAZE 22	5%	1/10W
R1018	1-216-009-00	METAL GLAZE 22	5%	1/10W
R1020	1-216-009-00	METAL GLAZE 22	5%	1/10W
R1021	1-216-077-00	METAL GLAZE 15K	5%	1/10W
R1026	1-216-037-00	METAL GLAZE 330	5%	1/10W
R1027	1-216-043-91	METAL GLAZE 560	5%	1/10W

REF. NO.	PART NO.	DESCRIPTION		REMARK
R1028	1-215-429-00	METAL 2.2K	1%	1/4W
R1029	1-216-043-91	METAL GLAZE 560	5%	1/10W
R1030	1-216-037-00	METAL GLAZE 330	5%	1/10W
R1031	1-216-059-00	METAL GLAZE 2.7K	5%	1/10W
R1032	1-216-037-00	METAL GLAZE 330	5%	1/10W
R1033	1-216-037-00	METAL GLAZE 330	5%	1/10W
R1034	1-216-081-00	METAL GLAZE 22K	5%	1/10W
R1035	1-216-057-00	METAL GLAZE 2.2K	5%	1/10W
R1036	1-216-037-00	METAL GLAZE 330	5%	1/10W
R1037	1-216-037-00	METAL GLAZE 330	5%	1/10W
R1038	1-216-037-00	METAL GLAZE 330	5%	1/10W
R1039	1-215-423-00	METAL 1.2K	1%	1/4W
R1040	1-216-043-91	METAL GLAZE 560	5%	1/10W
R1041	1-216-043-91	METAL GLAZE 560	5%	1/10W
R1042	1-216-037-00	METAL GLAZE 330	5%	1/10W
R1043	1-216-037-00	METAL GLAZE 330	5%	1/10W
R1044	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R1045	1-216-037-00	METAL GLAZE 330	5%	1/10W
R1046	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R1047	1-216-067-00	METAL GLAZE 5.6K	5%	1/10W
R1048	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R1049	1-249-408-11	CARBON 180	5%	1/4W
R1050	1-216-057-00	METAL GLAZE 2.2K	5%	1/10W
R1051	1-216-688-11	METAL CHIP 36K	0.50%	1/10W
R1052	1-216-047-91	METAL GLAZE 820	5%	1/10W
R1053	1-216-641-11	METAL CHIP 390	0.50%	1/10W
R1054	1-216-071-00	METAL GLAZE 8.2K	5%	1/10W
R1055	1-216-047-91	METAL GLAZE 820	5%	1/10W
R1056	1-216-037-00	METAL GLAZE 330	5%	1/10W
R1057	1-216-009-00	METAL GLAZE 22	5%	1/10W
R1058	1-216-017-91	METAL GLAZE 47	5%	1/10W
R1059	1-216-017-91	METAL GLAZE 47	5%	1/10W
R1060	1-216-017-91	METAL GLAZE 47	5%	1/10W
R1061	1-216-017-91	METAL GLAZE 47	5%	1/10W
R1062	1-216-017-91	METAL GLAZE 47	5%	1/10W
R1063	1-216-037-00	METAL GLAZE 330	5%	1/10W
R1064	1-216-655-11	METAL CHIP 5.5K	0.50%	1/10W
R1065	1-216-017-91	METAL GLAZE 47	5%	1/10W
R1066	1-216-017-91	METAL GLAZE 47	5%	1/10W
R1067	1-216-647-11	METAL CHIP 680	0.50%	1/10W
R1068	1-216-639-11	METAL CHIP 330	0.50%	1/10W
R1069	1-216-017-91	METAL GLAZE 47	5%	1/10W
R1070	1-208-771-11	METAL CHIP 360	0.50%	1/10W
R1071	1-216-081-00	METAL GLAZE 22K	5%	1/10W
R1072	1-216-081-00	METAL GLAZE 22K	5%	1/10W
R1073	1-216-649-11	METAL CHIP 820	0.50%	1/10W
R1074	1-216-053-00	METAL GLAZE 1.5K	5%	1/10W
R1075	1-216-045-00	METAL GLAZE 680	5%	1/10W
R1076	1-216-051-00	METAL GLAZE 1.2K	5%	1/10W
R1077	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R1078	1-216-047-91	METAL GLAZE 820	5%	1/10W
R1079	1-216-059-00	METAL GLAZE 2.7K	5%	1/10W
R1080	1-216-039-00	METAL GLAZE 390	5%	1/10W
R1081	1-208-771-11	METAL CHIP 360	0.50%	1/10W
R1082	1-216-035-00	METAL GLAZE 270	5%	1/10W
R1083	1-216-059-00	METAL GLAZE 2.7K	5%	1/10W
R1084	1-216-073-00	METAL GLAZE 10K	5%	1/10W
R1085	1-216-059-00	METAL GLAZE 2.7K	5%	1/10W
R1086	1-216-025-91	METAL GLAZE 100	5%	1/10W
R1087	1-216-645-11	METAL CHIP 560	0.50%	1/10W
R1088	1-216-089-91	METAL GLAZE 47K	5%	1/10W
R1089	1-216-047-91	METAL GLAZE 820	5%	1/10W
R1090	1-216-093-00	METAL GLAZE 68K	5%	1/10W
R1091	1-216-641-11	METAL CHIP 390	0.50%	1/10W
R1092	1-216-071-00	METAL GLAZE 8.2K	5%	1/10W
R1093	1-216-037-00	METAL GLAZE 330	5%	1/10W
R1094	1-216-009-00	METAL GLAZE 22	5%	1/10W
R1095	1-216-017-91	METAL GLAZE 47	5%	1/10W

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REF. NO.	PART NO.	DESCRIPTION		REMARK
R1096	1-216-017-91	METAL GLAZE 47	5%	1/10W
R1097	1-216-017-91	METAL GLAZE 47	5%	1/10W
R1098	1-216-037-00	METAL GLAZE 330	5%	1/10W
R1099	1-216-063-91	METAL GLAZE 3.9K	5%	1/10W
R1100	1-216-059-00	METAL GLAZE 2.7K	5%	1/10W
R1101	1-216-039-00	METAL GLAZE 390	5%	1/10W
R1102	1-208-771-11	METAL CHIP 360	0.50%	1/10W
R1103	1-216-017-91	METAL GLAZE 47	5%	1/10W
R1104	1-216-645-11	METAL CHIP 560	0.50%	1/10W
R1105	1-216-017-91	METAL GLAZE 47	5%	1/10W
R1106	1-216-651-11	METAL CHIP 1K	0.50%	1/10W
R1107	1-216-017-91	METAL GLAZE 47	5%	1/10W
R1108	1-216-059-00	METAL GLAZE 2.7K	5%	1/10W
R1109	1-216-619-11	METAL CHIP 47	0.50%	1/10W
R1110	1-216-013-00	METAL GLAZE 33	5%	1/10W
R1111	1-216-039-00	METAL GLAZE 390	5%	1/10W
R1112	1-208-771-11	METAL CHIP 360	0.50%	1/10W
R1113	1-216-035-00	METAL GLAZE 270	5%	1/10W
R1114	1-216-059-00	METAL GLAZE 2.7K	5%	1/10W
R1115	1-216-057-00	METAL GLAZE 2.2K	5%	1/10W
R1116	1-216-051-00	METAL GLAZE 1.2K	5%	1/10W
R1117	1-216-041-00	METAL GLAZE 470	5%	1/10W
R1118	1-216-041-00	METAL GLAZE 470	5%	1/10W
R1119	1-216-053-00	METAL GLAZE 1.5K	5%	1/10W
R1120	1-216-073-00	METAL GLAZE 10K	5%	1/10W
R1121	1-216-649-11	METAL CHIP 820	0.50%	1/10W
R1122	1-216-053-00	METAL GLAZE 1.5K	5%	1/10W
R1123	1-216-041-00	METAL GLAZE 470	5%	1/10W
R1124	1-216-017-91	METAL GLAZE 47	5%	1/10W
R1125	1-216-017-91	METAL GLAZE 47	5%	1/10W
R1126	1-216-059-00	METAL GLAZE 2.7K	5%	1/10W
R1127	1-216-039-00	METAL GLAZE 390	5%	1/10W
R1128	1-208-771-11	METAL CHIP 360	0.50%	1/10W
R1129	1-216-059-00	METAL GLAZE 2.7K	5%	1/10W
R1130	1-216-689-11	METAL GLAZE 39K	5%	1/10W
R1131	1-216-057-00	METAL GLAZE 2.2K	5%	1/10W
R1132	1-216-682-11	METAL CHIP 20K	0.50%	1/10W
R1133	1-216-047-91	METAL GLAZE 820	5%	1/10W
R1134	1-216-641-11	METAL CHIP 390	0.50%	1/10W
R1135	1-216-071-00	METAL GLAZE 8.2K	5%	1/10W
R1136	1-216-047-91	METAL GLAZE 820	5%	1/10W
R1137	1-216-037-00	METAL GLAZE 330	5%	1/10W
R1138	1-216-009-00	METAL GLAZE 22	5%	1/10W
R1139	1-216-017-91	METAL GLAZE 47	5%	1/10W
R1140	1-216-017-91	METAL GLAZE 47	5%	1/10W
R1141	1-216-017-91	METAL GLAZE 47	5%	1/10W
R1142	1-216-017-91	METAL GLAZE 47	5%	1/10W
R1143	1-216-017-91	METAL GLAZE 47	5%	1/10W
R1144	1-216-037-00	METAL GLAZE 330	5%	1/10W
R1145	1-208-771-11	METAL CHIP 360	0.50%	1/10W
R1146	1-216-655-11	METAL CHIP 1.5K	0.50%	1/10W
R1147	1-216-017-91	METAL GLAZE 47	5%	1/10W
R1148	1-216-017-91	METAL GLAZE 47	5%	1/10W
R1149	1-216-647-11	METAL CHIP 680	0.50%	1/10W
R1150	1-216-629-11	METAL CHIP 120	0.50%	1/10W
R1151	1-216-017-91	METAL GLAZE 47	5%	1/10W
R1152	1-208-771-11	METAL CHIP 360	0.50%	1/10W
R1153	1-216-081-00	METAL GLAZE 22K	5%	1/10W
R1154	1-216-081-00	METAL GLAZE 22K	5%	1/10W
R1155	1-216-647-11	METAL CHIP 680	0.50%	1/10W
R1156	1-216-053-00	METAL GLAZE 1.5K	5%	1/10W
R1157	1-216-041-00	METAL GLAZE 470	5%	1/10W
R1158	1-216-051-00	METAL GLAZE 1.2K	5%	1/10W
R1159	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R1160	1-216-047-91	METAL GLAZE 820	5%	1/10W
R1161	1-216-059-00	METAL GLAZE 2.7K	5%	1/10W
R1162	1-216-039-00	METAL GLAZE 390	5%	1/10W
R1163	1-216-035-00	METAL GLAZE 270	5%	1/10W
R1164	1-216-059-00	METAL GLAZE 2.7K	5%	1/10W
R1165	1-216-069-00	METAL GLAZE 6.8K	5%	1/10W

REF. NO.	PART NO.	DESCRIPTION		REMARK
R1166	1-216-059-00	METAL GLAZE 2.7K	5%	1/10W
R1167	1-216-677-11	METAL CHIP 12K	0.50%	1/10W
R1168	1-216-677-11	METAL CHIP 12K	0.50%	1/10W
R1169	1-216-677-11	METAL CHIP 12K	0.50%	1/10W
R1170	1-216-677-11	METAL CHIP 12K	0.50%	1/10W
R1171	1-216-677-11	METAL CHIP 12K	0.50%	1/10W
R1172	1-216-677-11	METAL CHIP 12K	0.50%	1/10W
R1175	1-216-677-11	METAL CHIP 12K	0.50%	1/10W
R1176	1-208-789-11	METAL CHIP 2K	0.50%	1/10W
R1177	1-249-417-11	CARBON 1K	5%	1/4W
R1178	1-249-417-11	CARBON 1K	5%	1/4W
R1180	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R1183	1-208-849-11	METAL CHIP 620K	0.50%	1/10W
R1184	1-216-662-11	METAL CHIP 3K	0.50%	1/10W
R1185	1-216-063-91	METAL GLAZE 3.9K	5%	1/10W
R1186	1-208-810-11	METAL CHIP 15K	0.50%	1/10W
R1187	1-216-113-00	METAL GLAZE 470K	5%	1/10W
R1188	1-216-662-11	METAL CHIP 3K	0.50%	1/10W
R1189	1-216-665-11	METAL CHIP 3.9K	0.50%	1/10W
R1190	1-216-665-11	METAL CHIP 3.9K	0.50%	1/10W
R1191	1-216-001-00	METAL GLAZE 10	5%	1/10W
R1192	1-216-097-91	METAL GLAZE 100K	5%	1/10W
R1193	1-216-083-00	METAL GLAZE 27K	5%	1/10W
R1194	1-216-662-11	METAL CHIP 3K	0.50%	1/10W
R1195	1-216-662-11	METAL CHIP 3K	0.50%	1/10W
R1196	1-216-665-11	METAL CHIP 3.9K	0.50%	1/10W
R1198	1-208-810-11	METAL CHIP 15K	0.50%	1/10W
R1199	1-216-662-11	METAL CHIP 3K	0.50%	1/10W
R1200	1-216-001-00	METAL GLAZE 10	5%	1/10W
R1202	1-216-662-11	METAL CHIP 3K	0.50%	1/10W
R1203	1-216-001-00	METAL GLAZE 10	5%	1/10W
R1204	1-216-662-11	METAL CHIP 3K	0.50%	1/10W
R1205	1-216-665-11	METAL CHIP 3.9K	0.50%	1/10W
R1207	1-216-665-11	METAL CHIP 3.9K	0.50%	1/10W
R1208	1-216-081-00	METAL GLAZE 22K	5%	1/10W
R1209	1-218-769-11	METAL CHIP 510K	0.50%	1/10W
R1210	1-208-806-11	METAL CHIP 10K	0.50%	1/10W
R1211	1-216-677-11	METAL CHIP 12K	0.50%	1/10W
R1212	1-216-677-11	METAL CHIP 12K	0.50%	1/10W
R1213	1-216-677-11	METAL CHIP 12K	0.50%	1/10W
R1214	1-216-677-11	METAL CHIP 12K	0.50%	1/10W
R1215	1-216-677-11	METAL CHIP 12K	0.50%	1/10W
R1216	1-216-677-11	METAL CHIP 12K	0.50%	1/10W
R1219	1-216-677-11	METAL CHIP 12K	0.50%	1/10W
R1220	1-216-113-00	METAL GLAZE 470K	5%	1/10W
R1221	1-216-097-91	METAL GLAZE 100K	5%	1/10W
R1222	1-216-689-11	METAL CHIP 39K	0.50%	1/10W
R1223	1-216-097-91	METAL GLAZE 100K	5%	1/10W
R1224	1-216-097-91	METAL GLAZE 100K	5%	1/10W
R1225	1-216-085-00	METAL GLAZE 33K	5%	1/10W
R1226	1-216-097-91	METAL GLAZE 100K	5%	1/10W
R1227	1-216-009-00	METAL GLAZE 22	5%	1/10W
R1228	1-216-049-91	METAL GLAZE 1K	5%	1/10W
R1229	1-216-009-00	METAL GLAZE 22	5%	1/10W
R1230	1-216-009-00	METAL GLAZE 22	5%	1/10W
R1231	1-216-009-00	METAL GLAZE 22	5%	1/10W
R1232	1-216-033-00	METAL GLAZE 220	5%	1/10W
R1233	1-216-033-00	METAL GLAZE 220	5%	1/10W
R1234	1-216-033-00	METAL GLAZE 220	5%	1/10W
R1235	1-216-033-00	METAL GLAZE 220	5%	1/10W
R1236	1-216-033-00	METAL GLAZE 220	5%	1/10W
R1237	1-216-033-00	METAL GLAZE 220	5%	1/10W
R1238	1-216-033-00	METAL GLAZE 220	5%	1/10W
R1239	1-216-113-00	METAL GLAZE 470K	5%	1/10W
R1240	1-216-025-91	METAL GLAZE 100	5%	1/10W
R1241	1-216-085-00	METAL GLAZE 33K	5%	1/10W
R1242	1-216-085-00	METAL GLAZE 33K	5%	1/10W
R1243	1-216-085-00	METAL GLAZE 33K	5%	1/10W
R1244	1-208-806-11	METAL CHIP 10K	0.50%	1/10W

REF. NO.	PART NO.	DESCRIPTION			REMARK
R1246	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R1247	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R1248	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R1249	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R1250	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R1251	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R1252	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R1253	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R1254	1-216-009-00	METAL GLAZE	22	5%	1/10W
R1255	1-216-041-00	METAL GLAZE	470	5%	1/10W
R1256	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W
R1257	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W
R1258	1-216-033-00	METAL GLAZE	220	5%	1/10W
R1259	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R1260	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R1261	1-216-017-91	METAL GLAZE	47	5%	1/10W
R1262	1-216-017-91	METAL GLAZE	47	5%	1/10W
R1263	1-216-017-91	METAL GLAZE	47	5%	1/10W
R1264	1-218-756-11	METAL CHIP	150K	0.50%	1/10W
R1265	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R1266	1-216-687-11	METAL CHIP	33K	0.50%	1/10W
R1267	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R1268	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R1269	1-216-682-11	METAL CHIP	20K	0.50%	1/10W
R1270	1-216-009-00	METAL GLAZE	22	5%	1/10W
R1271	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R1272	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R1273	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R1274	1-216-009-00	METAL GLAZE	22	5%	1/10W
R1275	1-216-682-11	METAL CHIP	20K	0.50%	1/10W
R1276	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R1277	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W
R1278	1-216-645-11	METAL CHIP	560	0.50%	1/10W
R1279	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R1280	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R1281	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W
R1282	1-216-645-11	METAL CHIP	560	0.50%	1/10W
R1283	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R1284	1-216-689-11	METAL GLAZE	39K	5%	1/10W
R1285	1-216-665-11	METAL CHIP	3.9K	0.50%	1/10W
R1286	1-208-814-11	METAL CHIP	22K	0.50%	1/10W
R1287	1-216-689-11	METAL GLAZE	39K	5%	1/10W
R1288	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R1289	1-216-093-00	METAL GLAZE	68K	5%	1/10W
R1290	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R1291	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R1292	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W
R1293	1-216-039-00	METAL GLAZE	390	5%	1/10W
R1294	1-216-077-00	METAL GLAZE	15K	5%	1/10W
R1295	1-216-689-11	METAL GLAZE	39K	5%	1/10W
R1296	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R1297	1-216-025-91	METAL GLAZE	100	5%	1/10W
R1298	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R1299	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R1300	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R1301	1-216-685-11	METAL CHIP	27K	0.50%	1/10W
R1302	1-216-689-11	METAL CHIP	39K	0.50%	1/10W
R1303	1-216-682-11	METAL CHIP	20K	0.50%	1/10W
R1304	1-216-699-11	METAL CHIP	100K	0.50%	1/10W
R1305	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R2002	1-249-449-11	CARBON	1.5	5%	1/4W F
R2003	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R2004	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R2005	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R2006	1-216-033-00	METAL GLAZE	220	5%	1/10W
R2007	1-216-009-00	METAL GLAZE	22	5%	1/10W
R2008	1-216-009-00	METAL GLAZE	22	5%	1/10W
R2009	1-216-009-00	METAL GLAZE	22	5%	1/10W

REF. NO.	PART NO.	DESCRIPTION			REMARK
R2010	1-216-009-00	METAL GLAZE	22	5%	1/10W
R2011	1-216-009-00	METAL GLAZE	22	5%	1/10W
R2012	1-216-009-00	METAL GLAZE	22	5%	1/10W
R2013	1-216-009-00	METAL GLAZE	22	5%	1/10W
R2014	1-216-009-00	METAL GLAZE	22	5%	1/10W
R2015	1-216-009-00	METAL GLAZE	22	5%	1/10W
R2016	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R2017	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R2018	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R2019	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R2020	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R2021	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R2022	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R2023	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R2025	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R2026	1-216-009-00	METAL GLAZE	22	5%	1/10W
R2027	1-216-009-00	METAL GLAZE	22	5%	1/10W
R2028	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R2029	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R2030	1-216-009-00	METAL GLAZE	22	5%	1/10W
R2031	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R2032	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R2033	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R2034	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R2035	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R2036	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R2037	1-216-009-00	METAL GLAZE	22	5%	1/10W
R2038	1-216-009-00	METAL GLAZE	22	5%	1/10W
R2039	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R2040	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R2041	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R2042	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R2043	1-216-009-00	METAL GLAZE	22	5%	1/10W
R2044	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R2045	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R2046	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R2047	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R2049	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R2050	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R2051	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R2052	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R2053	1-208-784-11	METAL CHIP	1.2K	0.50%	1/10W
R2054	1-208-800-11	METAL CHIP	5.6K	0.50%	1/10W
R2055	1-208-814-11	METAL CHIP	22K	0.50%	1/10W
R2056	1-208-814-11	METAL CHIP	22K	0.50%	1/10W
R2057	1-208-814-11	METAL CHIP	22K	0.50%	1/10W
R2058	1-208-800-11	METAL CHIP	5.6K	0.50%	1/10W
R2059	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R2060	1-216-673-11	METAL CHIP	8.2K	0.50%	1/10W
R2061	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R2062	1-216-666-11	METAL CHIP	4.3K	0.50%	1/10W
R2063	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R2064	1-216-025-91	METAL GLAZE	100	5%	1/10W
R2065	1-208-822-11	METAL CHIP	47K	0.50%	1/10W
R2067	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R2068	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R2069	1-208-822-11	METAL CHIP	47K	0.50%	1/10W
R2070	1-218-760-11	METAL CHIP	200K	0.50%	1/10W
R2071	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R2072	1-216-673-11	METAL CHIP	8.2K	0.50%	1/10W
R2073	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R2074	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R2075	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R2076	1-216-697-91	METAL CHIP	82K	0.50%	1/10W
R2077	1-216-025-91	METAL GLAZE	100	5%	1/10W
R2078	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R2079	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R2080	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R2081	1-216-695-11	METAL CHIP	68K	0.50%	1/10W

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REF. NO.	PART NO.	DESCRIPTION			REMARK
R2082	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W
R2083	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W
R2084	1-216-687-11	METAL CHIP	33K	0.50%	1/10W
R2085	1-216-676-11	METAL CHIP	11K	0.50%	1/10W
R2086	1-208-822-11	METAL CHIP	47K	0.50%	1/10W
R2087	1-216-661-11	METAL CHIP	2.7K	0.50%	1/10W
R2088	1-216-677-11	METAL CHIP	12K	0.50%	1/10W
R2089	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R2090	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R2091	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R2092	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R2093	1-216-025-91	METAL GLAZE	100	5%	1/10W
R2094	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R2095	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R2096	1-216-109-00	METAL GLAZE	330K	5%	1/10W
R2097	1-208-814-11	METAL CHIP	22K	0.50%	1/10W
R2098	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R2099	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R2100	1-216-009-00	METAL GLAZE	22	5%	1/10W
R2101	1-208-806-11	METAL CHIP	10K	0.50%	1/10W
R2102	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R2103	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W
R2104	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R2105	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R2106	1-208-814-11	METAL CHIP	22K	0.50%	1/10W
R2107	1-247-735-11	CARBON	47	5%	1/2W F
R2108	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R2109	1-216-685-11	METAL CHIP	27K	0.50%	1/10W
R2110	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R2111	1-216-665-11	METAL CHIP	3.9K	0.50%	1/10W
R2112	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R2113	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W
R2114	1-208-814-11	METAL CHIP	22K	0.50%	1/10W
R2115	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R2116	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R2117	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R2118	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R2119	1-216-013-00	METAL GLAZE	33	5%	1/10W
R2120	1-216-013-00	METAL GLAZE	33	5%	1/10W
R2121	1-216-013-00	METAL GLAZE	33	5%	1/10W
R2122	1-216-013-00	METAL GLAZE	33	5%	1/10W
R2123	1-249-404-00	CARBON	82	5%	1/4W
R2124	1-216-677-11	METAL CHIP	12K	0.50%	1/10W
R2125	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R2126	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R2127	1-216-665-11	METAL CHIP	3.9K	0.50%	1/10W
R2128	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R2129	1-216-033-00	METAL GLAZE	220	5%	1/10W
R2130	1-208-814-11	METAL CHIP	22K	0.50%	1/10W
R2131	1-216-673-11	METAL CHIP	8.2K	0.50%	1/10W
R2132	1-208-822-11	METAL CHIP	47K	0.50%	1/10W
R2133	1-208-814-11	METAL CHIP	22K	0.50%	1/10W
R2134	1-216-699-11	METAL CHIP	100K	0.50%	1/10W
R2135	1-216-661-11	METAL CHIP	2.7K	0.50%	1/10W
R2136	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R2137	1-216-001-00	METAL GLAZE	10	5%	1/10W
R2138	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R2139	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R2140	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R2141	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R2142	1-216-031-00	METAL GLAZE	180	5%	1/10W
R2143	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R2144	1-216-652-11	METAL CHIP	1.1K	0.50%	1/10W
R3001	1-247-747-11	CARBON	470	5%	1/2W
R3002	1-247-688-11	CARBON	10	5%	1/4W F
R3003	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R3004	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3005	1-216-085-00	METAL GLAZE	33K	5%	1/10W

REF. NO.	PART NO.	DESCRIPTION			REMARK
R3006	1-216-079-00	METAL GLAZE	18K	5%	1/10W
R3007	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R3008	1-216-045-00	METAL GLAZE	680	5%	1/10W
R3009	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R3010	1-249-482-11	CARBON	4.7	5%	1/2W
R3011	1-216-009-00	METAL GLAZE	22	5%	1/10W
R3012	1-216-009-00	METAL GLAZE	22	5%	1/10W
R3013	1-216-009-00	METAL GLAZE	22	5%	1/10W
R3014	1-216-645-11	METAL CHIP	560	0.50%	1/10W
R3015	1-216-025-91	METAL GLAZE	100	5%	1/10W
R3016	1-216-035-00	METAL GLAZE	270	5%	1/10W
R3017	1-216-645-11	METAL CHIP	560	0.50%	1/10W
R3018	1-216-025-91	METAL GLAZE	100	5%	1/10W
R3019	1-216-035-00	METAL GLAZE	270	5%	1/10W
R3020	1-216-645-11	METAL CHIP	560	0.50%	1/10W
R3021	1-216-025-91	METAL GLAZE	100	5%	1/10W
R3022	1-216-035-00	METAL GLAZE	270	5%	1/10W
R3023	1-216-635-11	METAL CHIP	220	0.50%	1/10W
R3024	1-216-635-11	METAL CHIP	220	0.50%	1/10W
R3025	1-216-635-11	METAL CHIP	220	0.50%	1/10W
R3026	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W
R3027	1-216-025-91	METAL GLAZE	100	5%	1/10W
R3028	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W
R3029	1-216-025-91	METAL GLAZE	100	5%	1/10W
R3030	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W
R3031	1-216-025-91	METAL GLAZE	100	5%	1/10W
R3032	1-216-025-91	METAL GLAZE	100	5%	1/10W
R3033	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3034	1-216-025-91	METAL GLAZE	100	5%	1/10W
R3035	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3036	1-216-025-91	METAL GLAZE	100	5%	1/10W
R3037	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3038	1-216-367-11	METAL OXIDE	0.68	5%	2W F
R3039	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R3040	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R3041	1-216-075-00	METAL GLAZE	12K	5%	1/10W
R3042	1-216-025-91	METAL GLAZE	100	5%	1/10W
R3043	1-216-077-00	METAL GLAZE	15K	5%	1/10W
R3044	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R3045	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W
R3046	1-216-685-11	METAL CHIP	27K	0.50%	1/10W
R3047	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R3048	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R3049	1-216-099-00	METAL GLAZE	120K	5%	1/10W
R3050	1-216-009-00	METAL GLAZE	22	5%	1/10W
R3051	1-216-025-91	METAL GLAZE	100	5%	1/10W
R3052	1-216-009-00	METAL GLAZE	22	5%	1/10W
R3053	1-216-113-00	METAL GLAZE	470K	5%	1/10W
R3054	1-216-685-11	METAL CHIP	27K	0.50%	1/10W
R3055	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W
R3056	1-208-814-11	METAL CHIP	22K	0.50%	1/10W
R3057	1-208-814-11	METAL CHIP	22K	0.50%	1/10W
R3058	1-216-685-11	METAL CHIP	27K	0.50%	1/10W
R3059	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R3060	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R3061	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R3062	1-208-767-11	METAL CHIP	240	0.50%	1/10W
R3063	1-208-767-11	METAL CHIP	240	0.50%	1/10W
R3064	1-216-660-11	METAL CHIP	2.4K	0.50%	1/10W
R3065	1-216-665-11	METAL CHIP	3.9K	0.50%	1/10W
R3069	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R3071	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R3072	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W
R3073	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R3074	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R3075	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R3076	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R3078	1-216-649-11	METAL CHIP	820	0.50%	1/10W

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

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REF. NO.	PART NO.	DESCRIPTION				REMARK
R3079	1-216-661-11	METAL CHIP	2.7K	0.50%	1/10W	
R3080	1-216-673-11	METAL CHIP	8.2K	0.50%	1/10W	
R3083	1-247-863-91	CARBON	22K	5%	1/4W	
R3084	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W	
R3085	1-208-824-11	METAL CHIP	56K	0.50%	1/10W	
R3086	1-247-692-11	CARBON	22	5%	1/4W	F
R3087	1-249-444-71	CARBON	0.56	5%	1/4W	F
R3088	1-216-045-00	METAL GLAZE	68Ω	5%	1/10W	
R3089	1-249-401-11	CARBON	47	5%	1/4W	
R3090	1-247-863-91	CARBON	22K	5%	1/4W	
R3091	1-249-421-11	CARBON	2.2K	5%	1/4W	
R3092	1-216-425-11	METAL OXIDE	56	5%	1W	F
R3093	1-249-448-11	CARBON	1.2	5%	1/4W	F
R3094	1-216-399-00	METAL OXIDE	6.8	5%	3W	F
R3095	1-216-399-00	METAL OXIDE	6.8	5%	3W	F
R3096	1-247-692-11	CARBON	22	5%	1/4W	F
R3097	1-215-911-11	METAL OXIDE	100	5%	3W	F
R3098	1-216-447-00	METAL OXIDE	27	5%	2W	F
R3099	1-215-911-11	METAL OXIDE	100	5%	3W	F
R3101	1-215-892-11	METAL OXIDE	1K	5%	2W	F
R3102	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3103	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R3104	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R3105	1-208-612-11	METAL OXIDE	10M	5%	1W	
R3106	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3107	1-202-829-11	SOLID	8.2K	20%	1/2W	
R3108	1-208-610-11	METAL OXIDE	2M	5%	1W	
R3109	1-249-428-11	CARBON	8.2K	5%	1/4W	
R3110	1-208-812-11	METAL CHIP	18K	0.50%	1/10W	
R3111	1-249-443-11	CARBON	0.47	5%	1/4W	F
R3112	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R3113	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R3114	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R3115	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R3116	1-216-025-91	METAL GLAZE	100	5%	1/10W	
R3117	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R3118	1-216-295-91	CONDUCTOR, CHIP				
R3119	1-216-295-91	CONDUCTOR, CHIP				
R3120	1-216-295-91	CONDUCTOR, CHIP				
R3121	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R3122	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R3124	1-216-063-91	METAL GLAZE	3.9K	5%	1/10W	
R3125	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R3126	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3127	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3128	1-208-806-11	METAL CHIP	10K	0.50%	1/10W	
R3129	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R3130	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R3131	1-208-822-11	METAL CHIP	47K	0.50%	1/10W	
R3132	1-216-298-00	METAL GLAZE	2.2	5%	1/10W	
R3133	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R3134	1-249-443-11	CARBON	0.47	5%	1/4W	F
R3135	1-247-760-11	CARBON	4.7K	5%	1/2W	F
R3136	1-249-485-11	CARBON	8.2	5%	1/2W	F
R3137	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R3138	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R3139	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
R3140	1-208-812-11	METAL CHIP	18K	0.50%	1/10W	
R3141	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R3142	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3143	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R3144	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R3145	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3146	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3147	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R3148	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R3149	1-202-822-00	SOLID	2.2K	20%	1/2W	
R3150	1-202-826-00	SOLID	4.7K	20%	1/2W	
R3151	1-202-822-00	SOLID	2.2K	20%	1/2W	

REF. NO.	PART NO.	DESCRIPTION			REMARK
R3152	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R3153	1-208-822-11	METAL CHIP	47K	0.50%	1/10W
R3154	1-216-685-11	METAL CHIP	27K	0.50%	1/10W
R3155	1-216-677-11	METAL CHIP	12K	0.50%	1/10W
R3158	1-249-383-11	CARBON	1.5	5%	1/4W F
R3159	1-247-692-11	CARBON	22	5%	1/4W F
R3160	1-247-692-11	CARBON	22	5%	1/4W F
R3161	1-249-437-11	CARBON	47K	5%	1/4W
R3162	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R3163	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R3164	1-249-377-11	CARBON	0.47	5%	1/4W F
R3165	1-247-883-00	CARBON	150K	5%	1/4W
R3166	1-208-806-11	METAL CHIP	10K	0.50%	1/10W

<SPARK GAP>

SG3001	1-519-422-11	GAP, SPARK		

<TRANSFORMER>

T3001	1-423-769-11	TRANSFORMER, HORIZONTAL DRIVE	
T3002	1-423-855-11	TRANSFORMER, FERRITE (HRT)	
T3003	⚠ 1-433-204-11	PFC ASSY	
	4-052-340-01	SHORT RING; T3003	

<CRYSTAL>

X1	1-527-722-00	OSCILLATOR, CRYSTAL	
X2	1-577-259-11	VIBRATOR, CRYSTAL	
X2001	1-760-040-11	VIBRATOR, CRYSTAL	

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* A-1316-245-A G BOARD, COMPLETE
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* X-4033-346-1 HEAT SINK ASSY (G)

<CAPACITOR>

C601	1-137-484-11	FILM	0.47μF	10%	630V
C602	⚠ 1-136-360-51	FILM	0.22μF	20%	250V
C603	⚠ 1-136-360-51	FILM	0.22μF	20%	250V
C604	⚠ 1-113-915-91	ELECT	0.001μF	20%	250V
C605	⚠ 1-113-915-91	ELECT	0.001μF	20%	250V
C606	⚠ 1-113-915-91	ELECT	0.001μF	20%	250V
C607	⚠ 1-113-915-91	ELECT	0.001μF	20%	250V
C608	⚠ 1-161-953-52	CERAMIC	0.0047μF	20%	400V
C609	⚠ 1-161-953-52	CERAMIC	0.0047μF	20%	400V
C610	⚠ 1-161-953-52	CERAMIC	0.0047μF	20%	400V
C611	⚠ 1-161-953-52	CERAMIC	0.0047μF	20%	400V
C612	1-137-484-11	FILM	0.47μF	10%	630V
C613	1-137-484-11	FILM	0.47μF	10%	630V
C614	1-129-720-00	FILM	0.033μF	10%	630V
C615	1-136-619-11	FILM	0.0016μF	3%	2KV
C616	1-126-947-11	ELECT	47μF	20%	35V
C617	1-136-557-11	FILM	0.0033μF	10%	630V
C618	1-126-096-11	ELECT	10μF	20%	25V
C619	1-126-969-11	ELECT	220μF	20%	50V
C620	1-161-754-00	CERAMIC	0.001μF	10%	2KV
C621	1-125-494-11	ELECT(BLOCK)	560μF	20%	160V
C622	1-102-038-00	CERAMIC	0.001μF		500V
C623	1-107-885-11	ELECT	3300μF	20%	16V
C624	1-137-484-11	FILM	0.47μF	10%	630V
C625	1-102-038-00	CERAMIC	0.001μF		500V
C626	1-128-548-11	ELECT	4700μF	20%	25V
C627	1-102-038-00	CERAMIC	0.001μF		500V
C628	1-128-548-11	ELECT	4700μF	20%	25V

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The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION			REMARK
C629	1-126-964-11	ELECT	10µF	20%	50V
C630	1-136-853-11	FILM	0.56µF	5%	200V
C631	1-126-771-11	ELECT	100µF	20%	160V
C632	1-107-910-11	ELECT	100µF	20%	50V
C633	1-128-226-11	ELECT	220µF	20%	50V
C635	1-107-889-11	ELECT	220µF	20%	25V
C636	1-161-754-00	CERAMIC	0.001µF	10%	2KV
C637	1-107-948-11	ELECT	330µF	20%	160V
C638	1-126-355-11	ELECT	33µF	20%	160V

<CONNECTOR>

CN601	1-691-960-11	PIN, CONNECTOR (PC BOARD) 3P
CN602	*1-695-561-11	PIN, CONNECTOR (PC BOARD) 7P
CN603	*1-508-765-00	PIN, CONNECTOR (5mm PITCH) 3P
CN605	*1-573-964-11	PIN, CONNECTOR (PC BOARD) 6P
CN606	*1-564-508-11	PLUG, CONNECTOR 5P
CN609	*1-564-506-11	PLUG, CONNECTOR 3P

<DIODE>

D601	⚠ 8-719-032-39	DIODE DSA3A4-F3
D602	⚠ 8-719-032-39	DIODE DSA3A4-F3
D603	⚠ 8-719-032-39	DIODE DSA3A4-F3
D604	⚠ 8-719-032-39	DIODE DSA3A4-F3
D605	8-719-971-65	DIODE RGP15J-6040
D606	8-719-300-33	DIODE RU-3AM
D607	8-719-300-33	DIODE RU-3AM
D608	8-719-911-19	DIODE 1SS119-25
D609	8-719-300-33	DIODE RU-3AM
D610	8-719-300-33	DIODE RU-3AM
D611	8-719-045-48	DIODE FML-G12S
D612	8-719-045-48	DIODE FML-G12S
	4-382-854-11	SCREW (M3X10), P, SW (+); D612
D613	8-719-920-67	DIODE ERC91-02
D614	8-719-300-33	DIODE RU-3AM
D615	8-719-110-46	DIODE RD16ESB3
D616	8-719-918-78	DIODE V19GF1
D617	8-719-300-33	DIODE RU-3AM
D618	8-719-300-33	DIODE RU-3AM

<FUSE>

F601	1-533-223-11	HOLDER, FUSE
F602	1-533-223-11	HOLDER, FUSE

<FERRITE BEAD>

FB601	1-410-396-41	FERRITE BEAD INDUCTOR 0.45µH
FB602	1-410-396-41	FERRITE BEAD INDUCTOR 0.45µH
FB603	1-410-396-41	FERRITE BEAD INDUCTOR 0.45µH
FB604	1-410-396-41	FERRITE BEAD INDUCTOR 0.45µH
FB605	1-410-396-41	FERRITE BEAD INDUCTOR 0.45µH
FB606	1-410-396-41	FERRITE BEAD INDUCTOR 0.45µH
FB607	1-410-396-41	FERRITE BEAD INDUCTOR 0.45µH
FB608	1-410-396-41	FERRITE BEAD INDUCTOR 0.45µH

<IC>

IC601	8-749-925-03	IC STR-M6524
	4-382-854-11	SCREW (M3X10), P, SW (+); IC601
IC602	8-749-010-47	IC STR-S5115
	4-382-854-11	SCREW (M3X10), P, SW (+); IC602
IC603	8-759-332-39	IC µPC24M06HF
	4-382-854-11	SCREW (M3X10), P, SW (+); IC603
IC604	8-759-701-56	IC NJM78M05FA
	4-382-854-11	SCREW (M3X10), P, SW (+); IC604

<COIL>

REF. NO.	PART NO.	DESCRIPTION	REMARK
L601	1-411-215-11	COIL, CHOKE 200µH	
L602	1-421-421-00	COIL, CHOKE	
L603	1-421-465-00	COIL, FERRITE CHOKE 68µH	
L604	1-421-465-00	COIL, FERRITE CHOKE 68µH	

<PHOTO COUPLER>

PH601	8-749-923-50	PHOTO COUPLER PC111YS

<TRANSISTOR>

Q601	8-729-140-96	TRANSISTOR 2SD774-34
Q602	8-729-906-53	TRANSISTOR 2SC2542-15
Q603	8-729-303-61	TRANSISTOR 2SC3851-G
	4-382-854-11	SCREW (M3X10), P, SW (+); Q603

<RESISTOR>

R601	⚠ 1-202-855-91	SOLID	1M	20%	1/2W	
R602	1-216-489-11	METAL OXIDE	27K	5%	3W	F
R603	1-216-491-11	METAL OXIDE	56K	5%	3W	F
R604	1-249-418-11	CARBON	1.2K	5%	1/4W	
R605	1-249-415-11	CARBON	680	5%	1/4W	
R606	1-207-642-00	WIREWOUND	0.15	10%	3W	F
R607	1-249-423-11	CARBON	3.3K	5%	1/4W	
R608	1-249-426-11	CARBON	5.6K	5%	1/4W	
R609	1-249-426-11	CARBON	5.6K	5%	1/4W	
R610	1-249-421-11	CARBON	2.2K	5%	1/4W	
R611	1-249-417-11	CARBON	1K	5%	1/4W	
R612	1-249-404-00	CARBON	22	5%	1/4W	
R613	1-249-419-11	CARBON	1.5K	5%	1/4W	
R614	1-249-385-11	CARBON	2.2	5%	1/4W	F
R615	1-202-725-00	SOLID	3.3M	10%	1/2W	
R616	1-211-761-11	FUSIBLE	0.1	10%	1/2W	
R617	1-211-761-11	FUSIBLE	0.1	10%	1/2W	
R618	1-215-869-11	METAL OXIDE	1K	5%	1W	F
R619	1-211-761-11	FUSIBLE	0.1	10%	1/2W	
R620	1-211-761-11	FUSIBLE	0.1	10%	1/2W	
R621	1-216-440-00	METAL OXIDE	18K	5%	1W	F
R622	1-247-700-11	CARBON	100	5%	1/4W	
R623	1-249-417-11	CARBON	1K	5%	1/4W	
R624	1-216-341-11	METAL OXIDE	0.22	5%	1W	F
R625	1-216-341-11	METAL OXIDE	0.22	5%	1W	F
R626	1-215-869-11	METAL OXIDE	1K	5%	1W	F
R627	1-202-846-00	SOLID	470K	20%	1/2W	
R628	1-249-409-11	CARBON	220	5%	1/4W	F
R629	1-216-341-11	METAL OXIDE	0.22	5%	1W	F
R630	1-249-414-11	CARBON	560	5%	1/4W	F
R631	1-215-923-00	METAL OXIDE	10K	5%	3W	F
R632	1-202-725-00	SOLID	3.3M	10%	1/2W	
R633	1-247-903-00	CARBON	1M	5%	1/4W	
R634	1-247-903-00	CARBON	1M	5%	1/4W	
R635	1-247-903-00	CARBON	1M	5%	1/4W	

<RELAY>

RY601	⚠ 1-515-779-11	RELAY

<TRANSFORMER>

T601	⚠ 1-426-716-11	TRANSFORMER, LINE FILTER (LFT)
T602	⚠ 1-426-716-11	TRANSFORMER, LINE FILTER (LFT)
T603	1-429-462-11	TRANSFORMER, CONVERTER (SRT)

<THERMISTOR>

THP601	⚠ 1-809-827-11	THERMISTOR, POSITIVE

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

G C

REF. NO.	PART NO.	DESCRIPTION			REMARK
		<VARISTOR>			
VDR601	1-809-943-71	VARISTOR			
VDR602	1-809-942-71	VARISTOR			
VDR603	1-810-022-11	VARISTOR			
		**********			
	*A-1335-067-A	C BOARD, COMPLETE			
		**********			
	*X-4033-345-1	ASSY, HEAT SINK (C)			
	4-382-854-01	SCREW (M3X8), P, SW (+)			
		<CAPACITOR>			
C801	1-136-627-11	FILM	0.022µF	3%	1KV
C802	1-162-116-00	CERAMIC	680pF	10%	2KV
C803	1-102-074-00	CERAMIC	0.001µF	10%	50V
C804	1-107-963-11	ELECT	33µF	20%	250V
C805	1-102-050-00	CERAMIC	0.01µF		500V
C806	1-104-664-11	ELECT	47µF	20%	25V
C807	1-101-004-00	CERAMIC	0.01µF		50V
C808	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C809	1-102-108-00	CERAMIC	150pF	10%	50V
C810	1-107-963-11	ELECT	33µF	20%	250V
C811	1-102-050-00	CERAMIC	0.01µF		500V
C812	1-104-664-11	ELECT	47µF	20%	25V
C813	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C814	1-101-004-00	CERAMIC	0.01µF		50V
C815	1-102-108-00	CERAMIC	150pF	10%	50V
C816	1-107-963-11	ELECT	33µF	20%	250V
C817	1-102-050-00	CERAMIC	0.01µF		500V
C818	1-104-664-11	ELECT	47µF	20%	25V
C819	1-163-031-11	CERAMIC CHIP	0.01µF		50V
C820	1-101-004-00	CERAMIC	0.01µF		50V
C821	1-102-108-00	CERAMIC	150pF	10%	50V
		<CONNECTOR>			
CN801	*1-691-097-11	PIN, CONNECTOR (PC BOARD) 6P			
CN802	1-564-524-11	PLUG, CONNECTOR 9P			
CN803	*1-766-179-11	PIN, CONNECTOR (PC BOARD) 2P			
CN804	*1-564-518-11	PLUG, CONNECTOR 3P			
		<DIODE>			
D801	8-719-901-83	DIODE 1SS83			
D802	8-719-404-46	DIODE MA110			
D803	8-719-404-46	DIODE MA110			
D804	8-719-404-46	DIODE MA110			
D805	8-719-404-46	DIODE MA110			
D806	8-719-404-46	DIODE MA110			
D807	8-719-911-19	DIODE 1SS119-25			
D808	8-719-901-83	DIODE 1SS83			
D809	8-719-901-83	DIODE 1SS83			
D810	8-719-404-46	DIODE MA110			
D811	8-719-404-46	DIODE MA110			
D812	8-719-404-46	DIODE MA110			
D813	8-719-404-46	DIODE MA110			
D814	8-719-404-46	DIODE MA110			
D815	8-719-911-19	DIODE 1SS119-25			
D816	8-719-901-83	DIODE 1SS83			
D817	8-719-901-83	DIODE 1SS83			
D818	8-719-404-46	DIODE MA110			
D819	8-719-404-46	DIODE MA110			
D820	8-719-404-46	DIODE MA110			
D821	8-719-404-46	DIODE MA110			
D822	8-719-404-46	DIODE MA110			

REF. NO.	PART NO.	DESCRIPTION	REMARK
D823	8-719-911-19	DIODE 1SS119-25	
D824	8-719-901-83	DIODE 1SS83	
D825	8-719-901-83	DIODE 1SS83	
D826	8-719-404-46	DIODE MA110	
D827	8-719-404-46	DIODE MA110	
D828	8-719-404-46	DIODE MA110	
		<JACK>	
J801	1-251-116-12	SOCKET, PICTURE TUBE	
		<COIL>	
L801	1-408-414-00	INDUCTOR 27µH	
L802	1-408-404-00	INDUCTOR 3.9µH	
L803	1-408-404-00	INDUCTOR 3.9µH	
L804	1-408-404-00	INDUCTOR 3.9µH	
		<TRANSISTOR>	
Q801	8-729-255-12	TRANSISTOR 2SC2551-O	
Q802	8-729-255-12	TRANSISTOR 2SC2551-O	
Q803	8-729-801-99	TRANSISTOR 2SC3503-F	
	4-373-933-01	SHEET (TRANSISTOR), BN; Q803	
Q804	8-729-809-22	TRANSISTOR 2SC3950-D	
Q805	8-729-801-99	TRANSISTOR 2SC3503-F	
	4-373-933-01	SHEET (TRANSISTOR), BN; Q805	
Q806	8-729-801-88	TRANSISTOR 2SA1381-E	
	4-373-933-01	SHEET (TRANSISTOR), BN; Q806	
Q807	8-729-255-12	TRANSISTOR 2SC2551-O	
Q808	8-729-801-88	TRANSISTOR 2SA1381-E	
Q809	8-729-801-99	TRANSISTOR 2SC3503-F	
	4-373-933-01	SHEET (TRANSISTOR), BN; Q809	
Q810	8-729-809-22	TRANSISTOR 2SC3950-D	
Q811	8-729-801-99	TRANSISTOR 2SC3503-F	
	4-373-933-01	SHEET (TRANSISTOR), BN; Q811	
Q812	8-729-801-88	TRANSISTOR 2SA1381-E	
	4-373-933-01	SHEET (TRANSISTOR), BN; Q812	
Q813	8-729-255-12	TRANSISTOR 2SC2551-O	
Q814	8-729-801-88	TRANSISTOR 2SA1381-E	
Q815	8-729-801-99	TRANSISTOR 2SC3503-F	
	4-373-933-01	SHEET (TRANSISTOR), BN; Q815	
Q816	8-729-809-22	TRANSISTOR 2SC3950-D	
Q817	8-729-801-99	TRANSISTOR 2SC3503-F	
	4-373-933-01	SHEET (TRANSISTOR), BN; Q817	
Q818	8-729-801-88	TRANSISTOR 2SA1381-E	
	4-373-933-01	SHEET (TRANSISTOR), BN; Q818	
Q819	8-729-255-12	TRANSISTOR 2SC2551-O	
Q820	8-729-801-88	TRANSISTOR 2SA1381-E	
Q821	8-729-140-96	TRANSISTOR 2SD774-S4	
Q822	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
		<RESISTOR>	

R801	1-202-838-00	SOLID	100K	20%	1/2W
R802	1-202-730-00	SOLID	8.2M	20%	1/2W
R803	1-216-372-11	METAL OXIDE	1.8	5%	2W F
R805	1-202-843-11	SOLID	270K	20%	1/2W
R806	1-249-423-11	CARBON	3.3K	5%	1/4W
R807	1-249-429-11	CARBON	10K	5%	1/4W
R808	1-215-879-11	METAL OXIDE	47K	5%	1W F
R809	1-247-725-11	CARBON	10K	5%	1/4W F
R810	1-249-923-11	CARBON	1K	5%	1/4W F
R811	1-215-902-11	METAL OXIDE	47K	5%	2W F
R813	1-247-807-31	CARBON	100	5%	1/4W
R814	1-219-688-11	METAL	2.7K	1%	1/2W
R815	1-216-624-11	METAL CHIP	75	0.50%	1/10W
R816	1-214-842-00	METAL	120	1%	1/2W
R817	1-214-832-00	METAL	47	1%	1/2W
R818	1-216-017-91	METAL GLAZE	47	5%	1/10W
R819	1-216-017-91	METAL GLAZE	47	5%	1/10W
R820	1-247-807-31	CARBON	100	5%	1/4W
R821	1-216-013-00	METAL GLAZE	33	5%	1/10W
R822	1-216-013-00	METAL GLAZE	33	5%	1/10W

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The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION				REMARK
R823	1-215-892-11	METAL OXIDE	1K	5%	2W	F
R824	1-247-887-00	CARBON	220K	5%	1/4W	
R825	1-215-888-00	METAL OXIDE	220	5%	2W	F
R826	1-202-833-11	SOLID	18K	20%	1/2W	
R827	1-249-409-11	CARBON	220	5%	1/4W	F
R828	1-216-295-91	CONDUCTOR, CHIP				
R829	1-247-807-31	CARBON	100	5%	1/4W	
R830	1-219-688-11	METAL	2.7K	1%	10W	
R831	1-216-624-11	METAL CHIP	75	0.50%	1/10W	
R832	1-214-842-00	METAL	120	1%	1/2W	
R833	1-214-832-00	METAL	47	1%	1/2W	
R834	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R835	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R836	1-247-807-31	CARBON	100	5%	1/4W	
R837	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R838	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R839	1-215-892-11	METAL OXIDE	1K	5%	2W	F
R840	1-247-887-00	CARBON	220K	5%	1/4W	
R841	1-215-888-00	METAL OXIDE	220	5%	2W	F
R842	1-202-833-11	SOLID	18K	20%	1/2W	
R843	1-249-409-11	CARBON	220	5%	1/4W	F
R844	1-216-295-91	CONDUCTOR, CHIP				
R845	1-247-807-31	CARBON	100	5%	1/4W	
R846	1-219-688-11	METAL	2.7K	1%	10W	
R847	1-216-624-11	METAL CHIP	75	0.50%	1/10W	
R848	1-214-842-00	METAL	120	1%	1/2W	
R849	1-214-832-00	METAL	47	1%	1/2W	
R850	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R851	1-216-017-91	METAL GLAZE	47	5%	1/10W	
R852	1-247-807-31	CARBON	100	5%	1/4W	
R853	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R854	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R855	1-215-892-11	METAL OXIDE	1K	5%	2W	F
R856	1-247-887-00	CARBON	220K	5%	1/4W	
R857	1-215-888-00	METAL OXIDE	220	5%	2W	F
R858	1-202-833-11	SOLID	18K	20%	1/2W	
R859	1-249-409-11	CARBON	220	5%	1/4W	F
R860	1-249-441-11	CARBON	100K	5%	1/4W	
R861	1-216-049-91	METAL GLAZE	1K	5%	1/10W	
R862	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R863	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R865	1-216-017-91	METAL GLAZE	47	5%	1/10W	

<VARIABLE RESISTOR>

RV601 ⚠ 1-223-410-21 RES, ADJ, METAL FILM 110M

<SPARK GAP>

SG801	1-519-422-11	GAP, SPARK
SG802	1-519-422-11	GAP, SPARK
SG803	1-519-422-11	GAP, SPARK
SG804	1-519-422-11	GAP, SPARK

****

*A-1372-183-A H BOARD, COMPLETE
****

<CAPACITOR>

C501	1-101-004-00	CAP, CERAMIC 0.01µF
C502	1-101-004-00	CAP, CERAMIC 0.01µF
C503	1-101-004-00	CAP, CERAMIC 0.01µF

<CONNECTOR>

REF. NO.	PART NO.	DESCRIPTION	REMARK
CN501	1-564-524-11	PLUG, CONNECTOR 9P	
CN502	*1-564-528-11	PLUG, CONNECTOR 13P	

<DIODE>

D501	8-719-911-19	DIODE 1SS119-25
D502	8-719-911-19	DIODE 1SS119-25
D503	8-719-911-19	DIODE 1SS119-25
D504	8-719-911-19	DIODE 1SS119-25
D505	8-719-911-19	DIODE 1SS119-25
D506	8-719-911-19	DIODE 1SS119-25
D507	8-719-911-19	DIODE 1SS119-25
D508	8-719-911-19	DIODE 1SS119-25
D509	8-719-920-05	DIODE SLP28JC-50
D510	8-719-812-32	DIODE TLY123
D511	8-719-812-32	DIODE TLY123

<TRANSISTOR>

Q501	8-729-029-21	TRANSISTOR DTA114ESA-TP

<RESISTOR>

R501	1-249-430-11	RES, CARBON (SMALL) 12K
R502	1-247-863-91	RES, CARBON (SMALL) 22K
R503	1-247-863-91	RES, CARBON (SMALL) 22K
R504	1-249-417-11	RES, CARBON (SMALL) 1.0K
R505	1-249-417-11	RES, CARBON (SMALL) 1.0K
R506	1-249-417-11	RES, CARBON (SMALL) 1.0K
R507	1-249-417-11	RES, CARBON (SMALL) 1.0K
R508	1-249-417-11	RES, CARBON (SMALL) 1.0K
R509	1-249-417-11	RES, CARBON (SMALL) 1.0K
R510	1-249-421-11	RES, CARBON (SMALL) 2.2K
R511	1-249-414-11	RES, CARBON (SMALL) 560
R512	1-249-414-11	RES, CARBON (SMALL) 560
R513	1-249-436-11	RES, CARBON (SMALL) 39K

<VARIAVLE RESITOR>

RV501	1-223-504-21	RES, VAR, CARBON 20K
RV505	1-223-504-21	RES, VAR, CARBON 20K
RV502	1-223-735-11	RES, VAR, CARBON 20K
RV503	1-223-735-11	RES, VAR, CARBON 20K
RV504	1-223-735-11	RES, VAR, CARBON 20K

<SWITCH>

S501	1-570-969-11	SWITCH, KEY BOARD
S502	1-570-969-11	SWITCH, KEY BOARD
S503	1-570-969-11	SWITCH, KEY BOARD
S504	1-570-969-11	SWITCH, KEY BOARD
S505	1-570-101-41	SWITCH, KEY BOARD
S506	1-570-101-41	SWITCH, KEY BOARD
S507	1-570-101-41	SWITCH, KEY BOARD
S508	1-570-101-41	SWITCH, KEY BOARD
S509	1-570-101-41	SWITCH, KEY BOARD
S510	1-570-101-41	SWITCH, KEY BOARD

****

*A-1388-181-A J BOARD, COMPLETE
****

<CONNECTOR>

CN608	*1-695-561-11	PIN, CONNECTOR (PC BOARD) 7P

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION	REMARK
		<SWITCH>	
S901	⚠ 1-692-921-11	SWITCH, PUSH (A.C. POWER)	
		**********	
	* A-1390-586-A	X BOARD, COMPLETE **********	
		<CONNECTOR>	
CN690	*1-564-518-11	PLUG, CONNECTOR 3P	
		<DIODE>	
D691	8-719-301-36	DIODE SEL4410E-D	
D692	8-719-301-36	DIODE SEL4410E-D	
D693	8-719-301-36	DIODE SEL4410E-D	
D694	8-719-301-36	DIODE SEL4410E-D	
		**********	
		MISCELLANEOUS **********	
	⚠ 1-411-657-11	COIL, LANDING CORRECTION	
	⚠ 1-426-305-11	COIL, DEMAGNETIZATION	
	1-452-032-00	MAGNET DISK	
	⚠ 1-453-108-11	DC BLOCK, HIGH-VOLTAGE	
	⚠ 1-526-981-81	CAP ASSY, HIGH-VOLTAGE	
	1-541-449-11	FAN, DC (WITH SENSOR)	
	1-544-063-12	SPEAKER	
	⚠ 1-576-230-41	FUSE (H.B.C.) (3.15A/250V)	
	1-594-066-11	TERMINAL BOARD ASSY, I/O	
	1-923-507-15	WIRE TINNING COPPER 40MM	
	⚠ 8-451-432-51	DY-Y20SPH2-MS	
	⚠ 8-452-962-11	NA301(FM)	
V901	⚠ 8-736-279-03	PICTURE TUBE 20MT1 (PVM)	
		**********	
		ACCESSORIES AND PACKING MATERIALS **********	
	⚠ 1-551-631-22	CORD, POWER (6.0A/250V)	
	3-170-078-01	HOLDER (B), PLUG	
	3-701-616-01	BAG, POLYETHYLENE	
	3-810-592-11	INTERFACE MANUAL	
	3-810-593-11	MANUAL, INSTRUCTION	
	4-048-070-01	HINGE, COVER	
	4-048-072-01	COVER, CONTROL PANEL	
	4-048-073-01	COVER, DROP PROTECTION	
	4-048-176-01	SHEET, ADHESIVE	
	*4-043-769-01	CUSHION (UPPER) (ASSY)	
	*4-043-770-01	CUSHION (LOWER) (ASSY)	
	4-052-776-01	CARD, QUICK REFERENCE	
	4-052-968-01	INDIVIDUAL CARTON	
	4-381-155-01	BAG, PROTECTION	

9-922-614-01

Sony Corporation
B & I Systems Company

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English
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